

the American Perfumer and ESSENTIAL OIL REVIEW

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Editorial Comment

Statement of Policy by Federal Trade Commission

Last month, the Federal Trade Commission issued a statement of policy which had been passed by a unanimous vote. While the statement is quite lengthy, its spirit is set forth in the following quoted paragraph:

"It is the policy of the Commission to utilize the trade practice conference and stipulation procedures to encourage widespread observance of the law by enlisting the cooperation of members of industries and informing them more fully of the requirements of the law, so that wherever consistently possible, the Commission may avoid the need for adversary proceedings against persons who, through misunderstanding or carelessness, may violate the law unintentionally. But it is not the policy of the Commission to grant the privilege of settling cases through trade practice conference or stipulation agreements to persons who have violated the law where such violations involve intent to defraud or mislead; false advertisement of foods, drugs, devices or cosmetics which are inherently dangerous or where injury is probable; suppression or restraint of competition through conspiracy or monopolistic practices; or violations of the Clayton Act; nor will the privilege be granted where the Commission is of the opinion that such procedure will not be effective in preventing continued use of the unlawful methods, acts or practices. The Commission reserves the right in all cases to withhold the privilege of settlement by trade practice conference or stipulation agreements. When in connection with industry-wide investigation informal matters of whatever nature are docketed against individual members of that industry, from which the promulgation of trade practice conference rules ensues covering the questioned practices, and which are subscribed to and accepted by the affected members of the industry, the Commission will give careful consideration to whether or not public interest requires further investigation of such informal matters."

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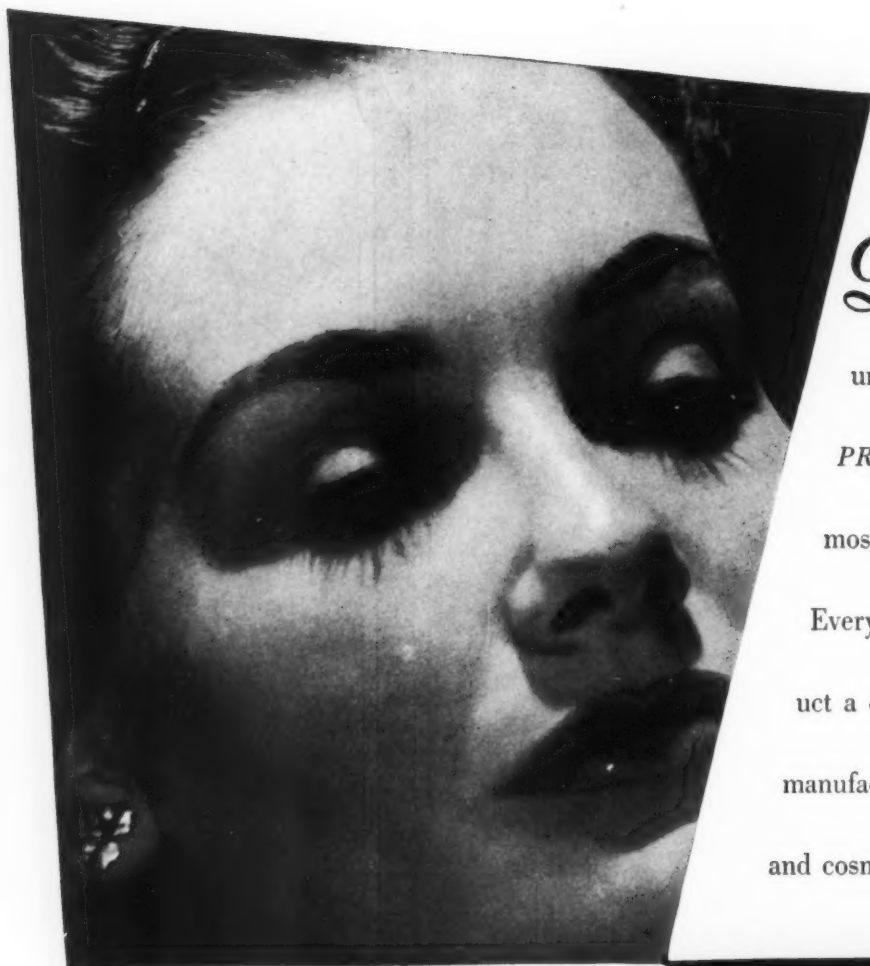
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Desiderata

by MAISON G. DENAVARRE

TRAGACANTH

Some months ago the laboratory had the job of making a mucilage of tragacanth to be ready for use a few hours later. The dried gum hydrolyzes slowly in the cold and ordinarily takes about 24 to 48 hours to completely swell. We didn't have this kind of time so had to devise a "quickie" method. The mucilage was made in several ways, with ribbon and powdered gum. In the end, the ribbon—as usual—worked best.

The dry gum was placed in a liter beaker, and a high speed propeller type mixer (1750 rpm) was set up. Water at 140 deg. F. was used. The mixer turned on, and allowed to continuously mix for two hours. After setting for a half hour, it was again mixed for about 10 to 15 minutes. Presto, a mucilage that was smooth, free of lumps and of practically the same viscosity as it was 24 hours later.

Of course heat is supposed to be bad for tragacanth, reducing the viscosity of the final gel. (My own experiments don't confirm this.) Yet it does do a swell job of hydrolysis under continued rapid stirring. The idea may not be practical on a commercial scale because of the slow rate of heat loss with possible further loss of viscosity in the mucilage, but it does afford a ready method of making lab runs of mucilage sometimes necessary for tests.

PATCHING CEMENT HOLES

Practically every factory is plagued with the problem of filling in holes where cement has chipped or broken out. Cement boys tell you it can't be done so it lasts any length of time.

Even so, a couple of manufacturers supply a resurfacing compound that can be applied to cement or wood. The stuff is used by the big steel companies on their floors when needed. One material stands pressures of 3000 pounds per square foot and will not rut. Supposed to cost about 12½ cents per square foot installed. Sounds good enough to try.

EGG SHAMPOO

Between the T.G.A. and the F.D.A. the question of how much egg must be present in a shampoo to be called an Egg Shampoo is fairly well established. Likewise, if you want to call it Shampoo with Egg (fresh, frozen or dehydrated) the product requires a minimum amount of egg.

As close as anyone knows, egg—that is fresh egg, is about 1/3 solids and 2/3 water. Thus one pound of dehydrated egg is approximately equal to 3 pounds of fresh egg. So much for that.

When it comes to egg shampoo as it has been practiced at home or in better beauty shops, from 1 to 4 eggs are required per shampoo. Admittedly, the shampoo leaves the hair with a nice feel and sheen. But whether it is a thorough cleanser, has not been determined. There is fat and lecithin in egg yolk. When used in the quantities present in egg, either the fat or the lecithin or both should leave the hair soft and with nice sheen.

BUT, when you add any significant amount of egg to ordinary shampoo formulations, whether soap or synthetic detergent type, you knock the dickens out of the foam. It is the same story as with lanolin



M. G. DeNavarre at work in his laboratory

again. So, the question resolves itself into determining what effect of egg is desired, the minimum amount of egg that can give this effect and finally, whether the egg can perform as it is supposed to in the presence of other foaming detergent or wetting agents.

The customer has a right to expect the shampoo to contain a significant amount of egg. There is an implied warranty. I think the F.D.A. is right in its attitude and in fact would say it was generous in its interpretation of the facts.

SUN TAN REPELLENT

There are advantages to a combination of sun screen and insect repellent, if the product contains enough repellent to perform. That would be an easy 20 per cent, and for a good product it would be a lot more. So far so good.

But the repellent is oftentimes a staining ingredient, or it may be a solvent for the synthetic fibers used in the modern decorative bathing suits. Can you imagine your bathing suit turning into a gel after a few minutes on a body previously treated with repellent-sun screen? Nor should it be forgotten that the repellent is also a solvent for nail polish. This is sometimes overlooked because the sun screen repellent is in the form of a liquid emulsion. Watch out when the water evaporates.

Incidentally, a recent study discloses that mosquitos like black, blue and red, and least of all like white



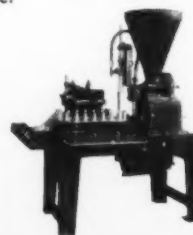
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and yellow colors. Bathing suit designers take note.

ESSENTIAL UNSATURATES

An A.M.A. Journal editorial (134, 606, 1947) seems to further vindicate early conclusions of the value of certain unsaturated fatty acids in the treatment of infantile eczema. (One may remember these being labelled as "vitamin F" once upon a time, a phrase this department never recognized, even though it cost the magazine a lot of advertising.)

In olden days and especially in foreign countries, the healing art was more often practiced by old women who had secrets handed down from their parents, or by the common peasant who acquired his knowledge by various means. These people have often been the discoverers of valuable medical aids . . . and *unsaturates* are one of them. When an animal developed a scaly skin or dull appearance to its hairy coat, linseed or linseed oil was the well known remedy. Even though it smelled to high heaven, linseed and its oil found its way into European cosmetics too. This writer has always believed and still does, that *unsaturates* as we know them, had a place in cosmetics such as in hair preparations, skin

creams and the like, but he does not subscribe to the fantastic claims made by the "F" proponents nor does he recognize them as a vitamin.

In these days when a product must have plus value, essential unsaturates are not to be considered as idle chatter material. With what is known about them NOW, someone could do a bit of research on the subject.

FATTY ACID ESTERS

A recent British patent on the use of methyl and ethyl oleates as active cosmetic ingredients recalls that the use of similar esters in this country is not very widespread. Best known is the isopropyl palmitate type of product, although there is no particular reason why butyl, isobutyl, propyl, ethyl or methyl derivatives could not do a similar job. Maybe better in certain cases. The samples of stearates, stearate-palmitates, palmitate-myristates, stearate-palmitate-oleates I have seen from different sources look quite interesting. Their price is a bit high when compared to mineral oil for example, but they have oily character without oily feel or appearance. They are inert, sometimes possessing a faint fruity aroma, water white to straw colored liquids.

would appreciate any information.

C. C.—INDIANA

A: Styptic pencils usually consist of alum. The chemical is melted and dissolves in its own water of crystallization. Occasionally, a little water has to be added to replace that lost by evaporation. The trick is to pour it at the proper temperature and as a result, the consistency of the melt has to be carefully watched. Occasionally, the alum is supplemented by the addition of a small amount of aluminum sulfate. The material is poured into molds and allowed to harden.

663. HAIR STRAIGHTENER

Q: I should be extremely grateful if you would furnish me with information, formulae and processes for (a) straightening negroid hair; (b) whitening negroid skins. I seem to remember seeing a reference in your journal some time back to the fact that Thiourea (or possibly a close relative) had an inhibiting effect on the production of melanin, but it was not clear whether this had been brought about in vitro or precisely how it would be brought about in practice. As far as question (a) is concerned, I presume hair waving fluids could be used but presume there is more to it than this. Has the deposition of a plastic material on the straightened hair been tried?

G. S. R.—SOUTH AFRICA

A: The hair may be straightened by a preparation similar to the following:

| | Per Cent |
|--------------------------|----------|
| Castor Oil | 64 |
| Petrolatum | 16 |
| Yellow Beeswax | 16 |
| Rosin | 4 |

Preparation: Melt the ingredients together and perfume, pouring just before the product congeals. Another way is to apply a bandoline which was generally famous in former days. A bandoline can be made from a 5 per cent to 6 per cent solution of gum tragacanth in water, suitably preserved. Occasionally, a small amount of alkali such as borax or potassium carbonate is added. It is doubtful if thiourea would bleach or whiten negroid skin. In this country, it is legal to use up to 5 per cent ammonium mercury in a suitable vehicle, usually petrolatum for this purpose. The whitening is slow, but definite.

QUESTIONS AND ANSWERS

661. CREAM COLOGNES

Q: We have tried two formulas for cream cologne, that appeared in your magazine during the last two years. The cologne prepared according to these formulas is too thick and foams too readily. Please advise us how we may overcome these difficulties.

J. P. C.—LOUISIANA

A: Try the following formula for cream cologne:

| | Per Cent |
|---------------------------------|----------|
| (A) | |
| Perfume Compound | 3.00 |
| Mineral Oil 65/75 | 0.50 |
| Isopropyl Alcohol | 1.00 |
| (B) | |
| Sorbitan Monostearate | 0.66 |
| Sorbitan Monolaurate Polyoxy | |
| alkylene Derivative | 1.34 |

| | |
|------------------------|-------|
| Preservative | q.s. |
| Water | 93.50 |

| | |
|-----------------|------|
| Color | q.s. |
|-----------------|------|

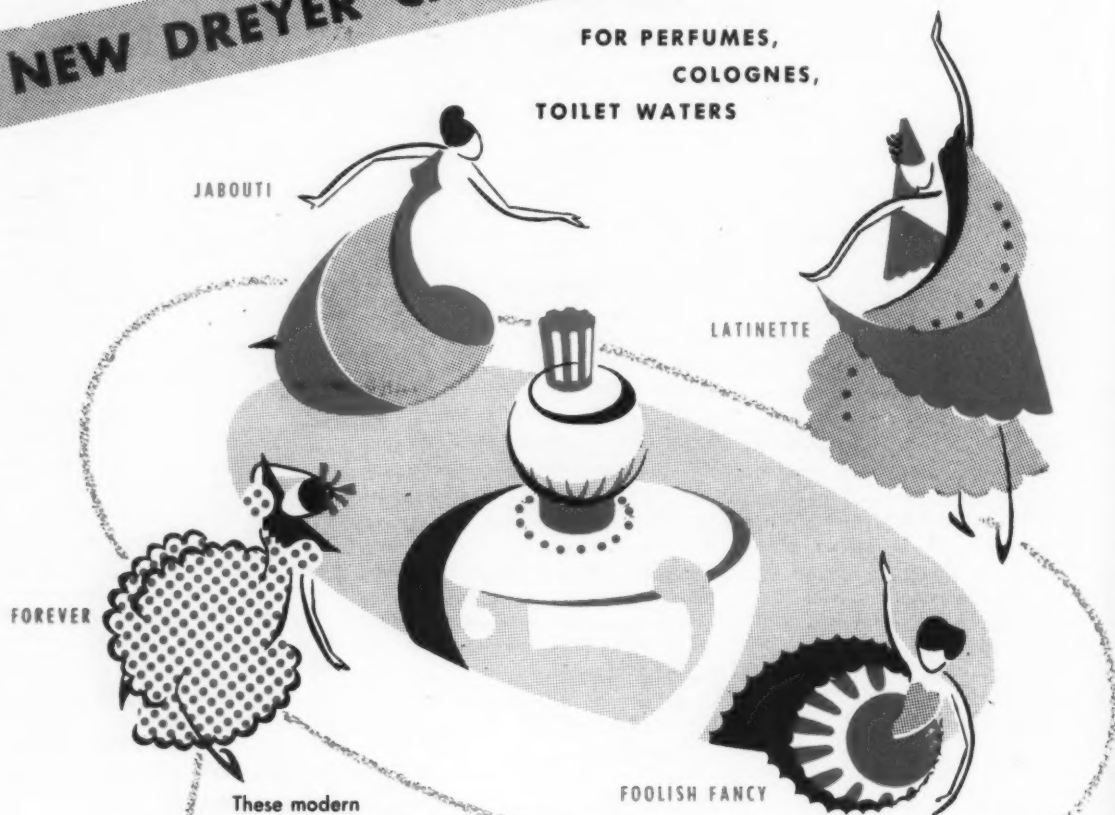
Preparation: Bring (A) to 55 deg. C. and (B) to 60 deg. C. Add (B) in extremely small portions at first until the mixture breaks and forms an emulsion. Then add the balance of the water, continue stirring and pass through either a colloid mill or homogenizer immediately. Continue agitating the milled or homogenized product until cold, then add color.

662. STYPTIC PENCILS

Q: We are desirous of getting either a source of information or formulas for styptic pencils and

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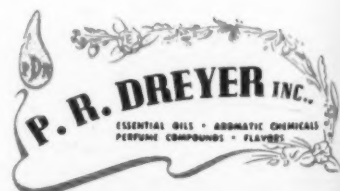
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Antioxidants in Vegetable Oils

The oxidative deterioration of fats may be checked by a satisfactory antioxidant . . . The sources

JOHN E. W. McCONNELL* *and characteristics of these antioxidants are presented*

THE major cause of deterioration of refined glyceride oils and their fatty acid derivatives is spontaneous oxidation (autoxidation). Oils with a high unsaturated fatty acid content, particularly those containing conjugated double bonds, are especially susceptible to this spoilage.

The process of rancidification involves taking up of oxygen at an unsaturated carbon-to-carbon linkage of the fatty acids and the subsequent formation of various peroxides, many of which are very strong oxidizing agents. Presumably these active oxygen compounds then set up an autocatalytic reaction in the course of which the fatty acid constituents are oxidized further to form compounds having objectionable odors and flavors. At the same time certain pigments, vitamins, essential oils, and other substances are also destroyed.

Oxidative rancidity includes both true oxidative rancidity and flavor reversion. Both types of deterioration are affected by the same factors such as oxygen, light, and storage temperature and sometimes it is very difficult to differentiate between the two types of spoilage; however, in flavor reversion, the objectionable flavor results from far less oxidation than is necessary for the production of true oxidative rancidity. All fats are subject to reversion to a more or less degree; but, fortunately, most vegetable oils do not develop marked off-flavors and odors until oxidation is quite advanced. Oils containing linolenic acid, such as soybean, linseed, and rapeseed, are subject to reversion while oils such as corn, cottonseed, and olive exhibit only slight tendencies toward this type of spoilage.

FACTORS AFFECTING OXIDATIVE CHANGES

Many factors tend to accelerate the oxidative deterioration of fats. Exposure to air will speed the take-up of oxygen at the double bonds and production of peroxides.

This article will be continued in the October issue of THE AMERICAN PERFUMER.

*Department of Food Technology, University of Massachusetts, Amherst, Mass.

Contribution No. 627, Massachusetts Agricultural Experiment Station.

This is particularly evident at high temperatures; therefore all oils and fats should be stored at as cool a temperature as possible and in sealed containers with a minimum amount of air or headspace. It has been found to be very advantageous to store some products under an inert gas. Particular care should be taken, in cases where an oil must be heated, that it be held at the elevated temperature for as short a time as possible and preferably protected from contact with oxygen.

Light has perhaps greater influence on the development of rancidity than any other single factor. Not all light catalyzes autoxidation, however, the active portion of the spectrum being in the region below 500 millimicrons. The deleterious effect of light can be eliminated by storage in opaque containers or by the use of containers such as those made of amber glass which exclude practically all of the active rays.

Many substances naturally associated with vegetable oils promote the development of rancidity. Carotene, xanthophyll and chlorophyll are found in crude oils but these substances are removed or destroyed during refining.

The presence of even as little as 0.3 per cent water in an oil will permit the growth of certain bacteria and molds in fats providing their nutritional requirements are met. The enzymatic systems of these microorganisms oxidize or hydrolyze fats, and substances which, when added to the fat, will inhibit the growth of these organisms can be considered as antioxidants. Phenols would act in a double role, in this instance, namely by inhibiting the growth of the microorganisms and by directly protecting the fat against autoxidation. Other bacteriostatic and bactericidal substances such as quaternary ammonium or other organic chlorine compounds, organic mercury compounds, etc., can be used.

Various metals have been found to be very active antioxidants. Some of these apparently act in the metallic form as surface catalysts without being attacked themselves. Salts and soaps of various metals are also active.

Contamination of a fat may take place through corrosion by contact between the fat and a metal. Contamination is accelerated at high temperatures or where different metals come in contact, thus setting up electrolytic cells, and resulting in rapid solution of one of the metals. Wear of metal machine parts results in contamination of fats with the metal itself. Copper in contact with fats greatly accelerates oxidation. Lead, zinc and iron have some effect while tin and aluminum have the least effect.

The concentration of metallic salts necessary for catalysis is very low, the effect of as little as one part copper per 100 million being detectable. Lea (1939) in summarizing the available data concluded that in general most metals present in solution in fats accelerate the development of rancidity. Cobalt, copper, and vanadium are most active followed by iron and manganese, and nickel and chromium. Least effective are tin and aluminum. Zinc and lead are relatively inactive but are easily dissolved and are toxic. Metals for use in handling fats should be highly resistant to corrosion and stainless steels such as nickel-chromium steels or relatively inert metals such as tin and aluminum are recommended. Although stainless steels have proved satisfactory for wet fats, they accelerate deterioration of dry fats almost as much as iron. Tin, which has been used successfully in contact with wet fats such as milk, is a fairly active surface catalyst for dry fats. Copper and its alloys should be avoided in the handling of fats at all times. The development of glass lined tanks and commercial glass piping offers some interesting possibilities for the handling of vegetable oils.

Usually greater stability is desirable for most fats than is offered by the practical control of all the above prooxidant factors and various substances, called antioxidants, have been found to be of value in inhibiting the development of rancidity. Presumably the antioxidant reacts with the active oxygen compound or peroxides releasing their energy and thus preventing accumulation and the subsequent chemical reactions which finally result in deleterious flavor changes.

THE ROLE OF ANTIOXIDANTS

It is typical of a natural fresh fat that it will oxidize slowly during the early part of its storage, then the rate of oxidation will accelerate suddenly, accompanied by the development of off-flavors and odors. This slow period of oxidation, during which most fats retain much of their fresh characteristics, is called the induction period. This induction period has been shown to be due largely to the presence of natural antioxidants, and its length, or the stability of the fat varies, within limits, with the kind and amount of antioxidant. Other factors besides the storage conditions which govern the induction period are prooxidants and kind and degree of unsaturation of the fatty acids.

Besides possessing antioxidative powers a satisfactory antioxidant should also be oil soluble, non-toxic if used in food or pharmaceutical products, should not impart any objectionable odor, color, or taste to the oil, should be stable under the conditions met with in the use of the product to which it has been added, and should be economically feasible and available.

In general all inhibitors of fat oxidation can be classified into: (1) substances having primary antioxygenic action on fatty-acids; and (2) synergists (Mattill 1945).

With few exceptions the only primary antioxidants are ortho and para di- and poly-phenolic compounds or substances having similar electronic configuration. Other compounds having other positive groups such as NH_2 in place of OH are also antioxygenic but these are not generally suitable for use in foodstuffs because of their toxicity. Many antioxidants, especially those occurring naturally in various plant products have not, as yet, been completely identified. The synergists are acidic in nature and cannot inhibit autoxidation alone but do so rather by reinforcing the effect of the true antioxidants.

FLAVOR REVERSION

Reversion of vegetable oils refers to the development of various objectionable odors and flavors usually described as fishy, hay-like, straw-like, etc. These changes involve the take up of very little oxygen for their production and the usual methods of delaying the development of rancidity in fats, including the use of antioxidants, have proved to be of little value; however, Armstrong and McFarlane (1944) reported that peroxide formation and flavor reversion of hydrogenated linseed oil shortening was retarded by the addition of 0.1 per cent Viobin antioxidant (a solvent-extracted wheat germ oil fortified with an edible hydroxy acid) and a combination of Viobin (0.1 per cent and isopropyl gallate (0.025 per cent).

It was found early in the investigation of the problem of rancidity that nature has provided protective substances associated with fats in all types of foods. For example, crude vegetable oils are much more stable than refined oils because of the presence of these natural antioxidants.

The additions of crude or hydrogenated oils such as sesame, corn germ, and wheat germ oil to refined oils was one of the first methods of stabilization used. Later the non-saponifiable portion of the oils was found to contain most of the natural antioxidants and the active constituents were called inhibitols. More recently it was discovered that the natural antioxidants in vegetable oils are composed mostly of hydroxy phenolic compounds called tocopherols. These are now obtained in a highly concentrated form by molecular distillation.

The optimum concentration for tocopherols is quite low; therefore their addition to vegetable oils is relatively ineffective. In fact excess tocopherols may be detrimental because they themselves are subject to oxidation and the quality of the fat may be depreciated by the oxidation products. On the other hand, vegetable fats or their derivatives such as fatty acids or glycerides, the natural antioxidants of which have either been removed or destroyed are very effectively protected from autoxidation by the addition of small amounts of tocopherols or other phenolic inhibitors (Table I).

The tocopherols themselves vary in effectiveness, some lacking antioxidative powers altogether. Of the active tocopherols their antioxidative powers are $\gamma > \beta > \alpha$. Associated with the tocopherols in vegetable oils is another inhibitor, chroman-5, 6-quinone. Other natural antioxidants present include certain vitamin K compounds, sesamol, and gossypol. Gossypol is present but in crude cottonseed oil in relatively large amounts and is responsible for its better stability in comparison with the refined oil. This substance is toxic but is removed in the refining process. Sesamol (another hydroxy phenolic compound), is found in sesame oil and accounts for its stability. Con-

TABLE I
Effect of Inhibitors on the Oxidation of Fats¹

| Substrate | Inhibitor Concentration Added per cent | Days to Become Rancid at 63 Deg. C | |
|-----------------------------|--|------------------------------------|-----------------|
| | | control | inhibitor |
| Cottonseed oil | 0.1 cottonseed | 4.45 | 3.54 |
| Cottonseed oil | 0.05 cottonseed | 8 | 8.5 |
| Cottonseed oil | 0.05 wheat-germ | 3.5 | 3 |
| Cottonseed oil | 0.05 wheat-germ | 8 | 6.5 |
| Hydrogenated cottonseed oil | 0.02 wheat-germ | 20.32 | 27.31 |
| Hydrogenated cottonseed oil | 0.03 wheat-germ | 41.49 | 42.49 |
| Oleic acid | 0.03 wheat-germ | 4 ² | 10 ² |
| Methyl oleate | 0.02 wheat-germ | 4 ² | 30 ² |

¹ Olcott and Mattill (1936).

² Induction-period of oxygen—absorption at 75 deg. C. in hours.

concentrates of these substances or of other crude vegetable oils are effective in pure fatty acids and their derivatives.

Carotenoids have been variously described as antioxidants and prooxidants; in fact patents on the use of carotenoids as antioxidants have been granted. However, it is now quite evident that the antioxidative effect first observed in the use of carotene extracts was due to other impurities, probably inhibitors, present in the crude material. In oils exposed to light, however, carotene has been found to act as an antioxidant by absorbing the harmful light rays.

A large number of substances have been found to act as antioxidants besides those which occur naturally in the oils themselves. Many of these have been evaluated scientifically but in the case of a great number the only available information consists of patent claims.

Various food products are rich sources of antioxidants, and these, of course, are innocuous physiologically; but many of the synthetic compounds are toxic, therefore this should be considered before a new antioxidant is used.

Coffee oil, cocoa butter, alcoholic extracts of spices or residues from the distillation of such spice oils as clove and cinnamon have been used as sources of antioxidants. Another rich source of natural antioxidants has been found in cereal and oil seeds or portions of the seed such as the germ husk, etc. In some fatty products such as ice cream it is possible to use these antioxidants in the form of a flour; however, in the case of clear oils this method is not feasible and the active principle of the seed must be removed by means of various solvents or by the oil or fat itself. During pressing of oil from seeds a large part of the antioxidant is left in the seed cake. These antioxidants can also be extracted and added to oils or fat after processing. It is claimed that the antioxidative properties of several seeds are greatly enhanced by a preliminary heating or by allowing cereal seeds to sprout.

Many procedures have been used for the extraction of these substances, including use of water, acid hydrolysis, acetone, various hydrocarbons, and alcohols. Among the seeds reported as sources of antioxidants are: anise, apple, avocado, barley, broad bean, carrot, celery, corn, dockage, grape, groundnut, hemp, lettuce, linseed, lotus, mung bean, oats, orange, pea, peanut, pumpkin, rice, sesame, soybean, sunflower, taro, walnut, watermelon, wheat, and green coffee beans. Other substances from which antioxidants have been extracted include olive paste, seed cakes, dried potatoes, hops, carrots, lettuce, etc. Jung (1941) investigated various flours in peanut and rapeseed oil and found the order of effectiveness to be mung bean, wheat bran, broad beans, lotus, and taro. Hilditch and Paul (1939) found that the antioxygen activities of concentrates from ex-

tracted meal of palm kernel, linseed, groundnut, soybean, and cottonseed to be in order listed. The antioxygenic substances were evidently basic-oxygen rather than basic-nitrogen compounds. According to Täufell and Müller (1943) the antioxygenic activity in cereal flours is tied in with the catalase, protein, and phosphatide constituents. All of these have been used individually as antioxidants.

Caffeic acid is found widely spread in plant products such as hemlock and pine resins and in the coffee bean in the form of derivatives. Nordihydroguaiaretic acid occurs in the creosote bush found abundantly in arid parts of this country. Both of these substances are naturally occurring poly-hydroxy phenolic compounds. Another rich source of natural antioxidants is various gums such as gum guaiac, gum benzoin, and southern sweet gum. Tannins and tannic acid, vanillin, furfural, cholesterol, licorice resins, xanthophyll, vitamin D, crude sources of vitamin B, and unsaponifiable fractions of leafy green vegetables are also used as antioxidants. Of all the known B vitamins only *p*-aminobenzoic acid has been shown to be antioxygenic; evidently other active substances are associated with these vitamins in their crude extracts. The active constituents in the unsaponifiable proteins of leafy green vegetables are presumably tocopherols or similar compounds.

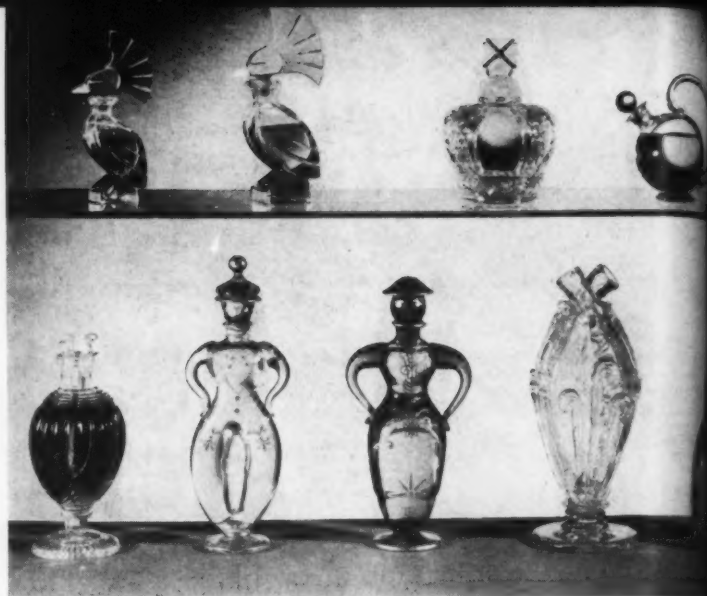
Certain natural products apparently contain substances which, although possessing little or no antioxygenic properties themselves, either break down or condense with other substances, when heated, to form new substances possessing antioxygenic properties. Many foods or constituents such as casein, barley, coffee, gelatin, malt, molasses, various sugars, starch, soybean flour, peanuts, cacao-bean or shell, etc. behave in this manner when heated. Sugar amines resulting from the combination of a sugar and a protein such as casein or an amino acid such as tyrosine, or compounds formed by the combination of a sugar and a polyhydroxy benzene compound are also antioxidants.

Many amino acids and their derivatives have proven to possess antioxidative properties. Among those reported are asparagine, cystine, lysine, histidine, arginine, tyrosine and various esters, glutathione, creatine, methionine, betaine or an ester or salt, glycine, etc. The use of glucamine and various derivatives and salts have been proposed.

Another and unusual source of antioxidants has been various microorganisms. Several investigators have reported extracts of non-pathogenic yeasts, molds, and bacteria to be effective. Usually the microorganisms are extracted directly with warm oil then the oil and cells separated by filtration.

Many chemical compounds have been found to be effective antioxidants. The aromatic amines are quite effective but are used only in non-edible products because of their toxicity. Sugar amines have been patented for food products. Aniline is only a feeble antioxidant, but many of the substituted amines, particularly secondary compounds such as phenyl-*z*-naphthylamine and diphenyl-*p*-phenylene-diamine are very active as are certain amine-aldehyde condensation products (aldol-*z*-naphthylamine) and aminophenols, diphenylhydrazine and diphenyl guanidine (Lea 1939). Diphenyl amine has been used effectively in products such as soap, etc. Other effective amines include aminotriphenylaceto-nitriles and hydroxy and oxy-aliphatic amino compounds such as hydroxylamine.

A pair of unusual canary-yellow birds cut and polished perfume bottles. 1920 (Czechoslovakia.) Crown perfume bottle. Originally designed to commemorate the Diamond Jubilee of Her Majesty Queen Victoria in 1897. Finally produced for the coronation of His Majesty Edward VII in 1902. (England.) Offhand blue bottle was laid-on handle and foot, solid ball stopper. About 1915. (Sweden.) Crystal "four-in-one-bottle," fully cut with swirl decoration over bowl, goose-neck glass stoppers. Middle 19th Century. (England.) Heavy footed, clear gemel bottle on button knob stem, decorated with fern sprouts in clear thick glass, uneven opening of hand tooling. Georgian period. (England.) Extremely heavy clear bottle, inner surface scored, with spiral decoration of orange colored glass overlay. Solid stopper crudely ground. About 1900. (Italy.)



THE *Beauty*

OF CHARACTER BOTTLES

Shown here are perfume bottles from the collection belonging to John R. Kennedy, president of the United-Rexall Co., Ltd., Canada. Mr. Kennedy's collections consist of over 1,300 items, and he has spent over thirty years in pursuit of his hobby. There are bottles of every size from those containing a few drops to those capable of holding 32 ounces, and in the collection are examples of every known color in glass, and of many variations of intensity. Mr. Kennedy has visited many of the famous glass plants in America and Europe, including Steuben, Carr-Lowrey, Swindell, Baccarat, Lalique and Orrefros. Coupled with the collection of bottles is a fine collection of old English, French and American paperweights. Included are fine examples from all countries in the world which produce fine bottles. Shown elsewhere on this page are a pair of rare toilet water bottles—the Gentleman and his Lady. They are of clear glass with a faint green cast. They were made by the offhand process, with applied arms and footed; are fitted with hollow stoppers, applied gold leaf and decoration; and were made in Denmark about 1900.





Beautifully blended bottle of turquoise blue and milk glass, with pair of dancing figures in milky glass for stopper. Excellent example of skillful mould designing and cutting. About 1910. (Czechoslovakia.) Crystal clear heavy bottle with circular cut and polished decoration. Post stopper, similar decoration. About 1940. (U. S.) Lavishly cut, faintly-yellow bottle of intricate design. About 1900. (Czechoslovakia.) Intense red bottle of opaque glass, cupids gathering flowers in bold relief and highlights. Flower bouquet stopper. About 1910. (Czechoslovakia.) Cameo flask of unusually fine design and workmanship by O'Farrell, working under the direction of John Northwood, Sr. Bottle of purplish metallic bronze finish with flowers, leaves and butterfly on milky glass overlay, sterling silver mounting. 1885. (England.) Inkwell with millefleur canes in bottle and stopper. Probably made by Stourbridge, late 19th Century (England).



Cameo bottle, design taken from Egyptian Museum exhibit. Egyptian water bird devouring snake encircling the bill. Cameo in milky glass; silver mounting. 1885. (England).



In this photograph are shown rare pieces from Tibet, Czechoslovakia, England, Holland and France. The larger of the twist stem wine glasses is of the period of 1740. The paperweight is by Baccarat and dated 1848.

Shown below are some fine examples of the bottle makers art. They are in the collection belonging to John R. Kennedy. The collection consists of over 1,300 bottles and paperweights.

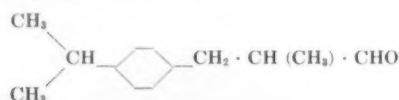


THE NATURE OF ALDEHYDES

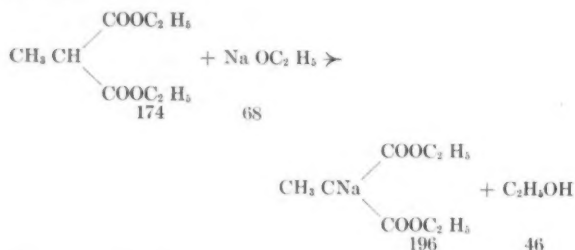
The structure, characteristics and the range of odors of aldehydes and their use in perfumery are

R. W. MONCRIEFF *discussed by the author**

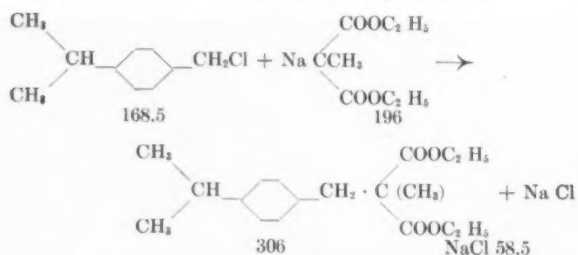
A PRODUCT which has great value in perfumery on account of its very pure lime odor is *p*-isopropyl- α -methyl hydrocinnamaldehyde



A method of production has been described in British patent 514452.¹⁶ The basis of the method is to condense cumyl chloride with sodium ethyl methyl malonate and pass the vapor of the product together with that of formic acid over a catalyst. In an example 174 grams ethyl methyl malonate is poured with stirring into a 10 per cent alcohol solution of sodium ethoxide containing 68 grams of sodium ethoxide. It will be seen that these are equimolecular proportions



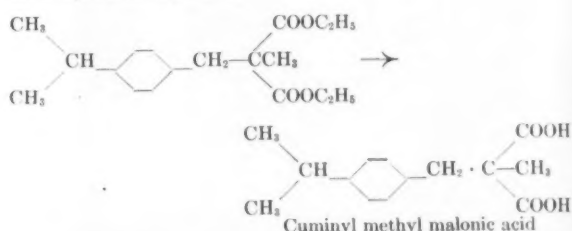
This is brought to the boil and 168.5 grams technical cumyl chloride is run in, and the reaction is taken to be complete when the mixture is no longer alkaline



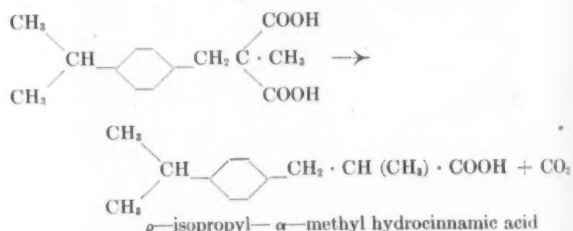
The ester is then saponified by heating to the boil with 1200 grams 10 per cent caustic soda for four hours. After

* This article is continued from the August issue of THE AMERICAN PERFUMER. It will be concluded in the October issue.

the alcohol has been distilled off the mixture is acidified with hydrochloric acid.



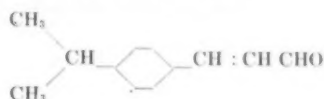
The cumyl methyl malonic acid is heated to 185 deg. C. and loses one molecule of carbon dioxide



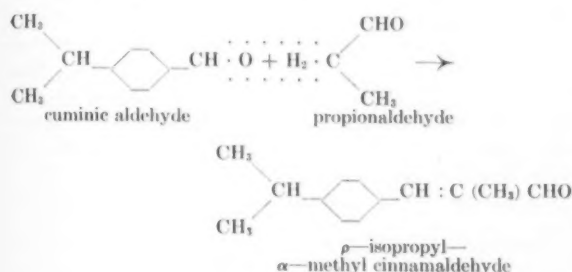
The product obtained is rectified under a vacuum, the portion passing over between 153 deg. and 157 deg. C. at 4 mm. mercury is collected and is *p*-isopropyl- α -cinnamic acid in 90 per cent yield plus a small quantity of the ortho derivative. The only problem that now remains is to transform the acid into the aldehyde. To do this, a tube of high value resistance glass 50 mm. in diameter and 1 metre in length is filled with a catalyst of manganous oxide mounted on pumice. A mixture of the vapors of formic acid (60 per cent) and *p*-isopropyl- α -methyl hydrocinnamic acid (40 per cent) is passed into the tube heated at 360 deg. C., at a rate of 1 kilogram of the mixture per hour. The product issuing from the tube contains aldehyde and unchanged acid, and on rectifying under a vacuum the aldehyde is easily separated from the acid which has a much higher boiling point. The yield of aldehyde is 80 per cent and the product has a fine penetrating odor of the lime type. If necessary the ortho derivative which contaminates the intermediate product, the *p*-isopropyl- α -methyl hydrocinnamic acid may be removed by benzene extraction.

An earlier method of producing this aldehyde, viz.,

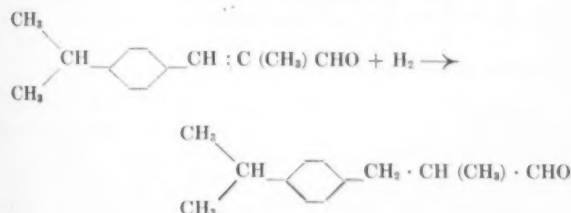
p-isopropyl- α -methyl hydro-cinnamaldehyde had been described in U. S. patent 1,844,013, and the product which as will be explained later was probably impure was described as having an intensive bloomy odor resembling cyclamen. It consisted in principle of preparing *p*-isopropyl- α -methyl cinnamic aldehyde from cuminic aldehyde by condensation with propionaldehyde and reducing the condensation product catalytically with hydrogen. In an example 10 parts of caustic potash dissolved in 400 parts ethyl alcohol are mixed at 10 deg. C. with 200 parts cuminic aldehyde. Then in the course of from two to four hours, 60 parts of propionic aldehyde are added drop by drop at a temperature of 10-15 deg. C. After neutralization of the potash with say carbon dioxide or acetic acid, the alcohol is removed by distillation and the reaction product is distilled in a vacuum. The distillate contains 45 parts of unaltered cuminic aldehyde and 160 parts of *p*-isopropyl- α -methyl cinnamic aldehyde. This unsaturated aldehyde has a spiced aromatic odor.



The reaction by which this product is formed is



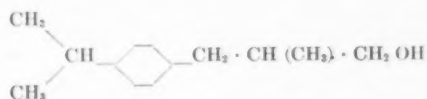
It will be noted that it is the reactive hydrogen atoms on the α -carbon atom of the propionic aldehyde which unite with the carbonyl oxygen of the cuminic aldehyde. Reduction of the product is effected by taking 100 parts of the *p*-isopropyl- α -methyl cinnamaldehyde diluted with ethanol or benzene, 3 per cent of reduced nickel as catalyst, and hydrogen under pressure at a temperature of 100 deg. C. The reaction is said to be complete when sufficient hydrogen has been absorbed to satisfy the equation



The final product *p*-isopropyl- α -methyl hydrocinnamic aldehyde is distilled in steam.

There is, however, possibly a difficulty in this method for the hydrogen under pressure during the catalytic reduction of the *p*-isopropyl- α -methyl cinnamaldehyde may not react exclusively with the ethylenic linkage but may also attack the aldehyde group and partly reduce it to alcohol. As the reduction is controlled by the amount of

hydrogen observed to be absorbed, it follows that since some of the hydrogen takes part in another reaction, i.e., reduction of aldehyde group instead of reduction of ethylenic linkage, there will be a variable but not negligible proportion of the untransformed original aldehyde and of the saturated alcohol corresponding to the saturated aldehyde.



The impurities have a characteristic odor and as they cannot practically be removed by normal purification methods, the fine and floral odor of the lime type characteristic of the *p*-isopropyl- α -methyl hydrocinnamaldehyde is contaminated by a strong odor of nuts and dry leaves due to the unsaturated aldehyde, which odor becomes more and more intense as evaporation of the perfume takes place, and which affords a considerable obstacle to its use in perfumery. It is, therefore, claimed that the method described in British patent 514452 which has already been described is superior to that just described as in U. S. patent 1,844,013. The density of the British patent 514452 product is 0.951 against 0.962 for the U. S. patent product and the corresponding boiling points under 9 mm. mercury are 126.7 deg. C. and 133-137 deg. C. respectively.

HIGHER FATTY ALDEHYDES

The higher fatty aldehydes have proved a valuable addition to the resources of the perfumer. They have extremely powerful odors usually of a fruity nature. As is often the case with powerful odorants, the odor of the pure substances is objectionable and it is only in dilution that their attractiveness reveals itself. If a drop of one of the higher fatty aldehydes is applied to the apparel then the result is unpleasant. When they are properly blended and used in small proportions they help to create proprietary bouquets and are often responsible for a note of distinction that would otherwise be lacking. They are also of value in rounding off fruit essences. They are marketed in the pure form and also as 10 per cent solutions in alcohol, and as they are particularly prone to oxidation in the pure state, the alcoholic solutions are preferred for general use.

Heptylic aldehyde also known as oenanthaldehyde $\text{CH}_3(\text{CH}_2)_5\text{CHO}$ is obtained by the dry distillation of castor oil under a pressure of 100 mm.; it is usual to treat small quantities at a time. Heptylic aldehyde boils at 152 deg. C. and has a persistent penetrating aromatic fruity odor.

Octyl aldehyde $\text{CH}_3(\text{CH}_2)_6\text{CHO}$ occurs naturally in oils of neroli and rose. The starting point in its synthesis is coconut fat. The fat is saponified to hydrolyze the glycerides and the fatty acids, which are then present as sodium salts, are freed by the addition of dilute sulphuric acid. Most of the fatty acids then separate, but as some of them are slightly soluble in water, the aqueous layer is extracted with petroleum ether and the product of the extract, i.e., after removal of the ether, are added to the fatty acids, which separated from the aqueous layer. The chief constituents of the mixed fatty acids are caprylic and lauric acids. They are washed with a little water, dried over anhydrous sodium sulphate and heated under reflux for

about eight hours with their own weight of methanol and a little sulphuric acid. This treatment converts the free fatty acids to their methyl esters which can be distilled much more safely, i.e., without serious decomposition, than can the acids from which they are made. Before distillation the esters are washed with water and a little alkali and then during distillation which is carried out *in vacuo*, they are fractionated. The earlier fractions contain most of the methyl caprylate and the later fractions are mainly methyl laurate. Whereas it would be a very difficult proposition to separate directly caprylic from lauric acid, by converting them to their esters, the problem is rendered very much easier. The methyl caprylate can be reduced by sodium and alcohol to give octyl alcohol, and this is the method usually adopted. It should be noted though that the high pressure catalytic reduction of esters to alcohols has been well worked out and there would seem to be no reason why this particular reaction, i.e., reduction of methyl caprylate, should not be carried out in the presence of a reduced nickel catalyst with hydrogen at a temperature of 260 deg. C. and a pressure of 6000 lbs. per square inch.

Those manufacturers who are not yet installed to carry out high pressure catalytic reductions should give serious consideration to the provision of suitable plant. They open the door to a great number of syntheses and if carried out carefully go very smoothly and give good yields and in this respect are immensely superior to the classical reduction method of sodium and alcohol. The pioneer work on the process was carried out by Homer Adkins and his colleagues and his book "Reactions of Hydrogen" contains sufficient detail to build a pilot plant and should be consulted by those interested. Whether prepared by high pressure or by sodium and alcohol reduction, the octyl alcohol is converted by controlled oxidation to the aldehyde. It boils at 175 deg. C. and is extensively used in perfumes of rose, jasmine, neroli, geranium and orange and chypre.

Nonyl aldehyde $\text{CH}_3(\text{CH}_2)_7\text{CHO}$ has been prepared by the dry distillation of α -hydroxycapric acid. It is a solid melting at 6 deg. C. and occurs naturally in rose and orange oils.

Decyl aldehyde $\text{CH}_3(\text{CH}_2)_8\text{CHO}$ is one of the most widely used, for example in violet, orris, neroli, rose and orange perfumes. It boils at 212 deg. C. and has a specific gravity of 0.828-0.834. Its preparation from coriander oil has been described by Shorygin and Osipova.¹⁷ The oil is treated with sodium bisulphite which combines with any aldehyde present; the aldehydes are released from the bisulphite compound by acidification and are then reconverted to the bisulphite compound and again released. This double treatment gives a product which contains 98 per cent decyl aldehyde in a quality suitable for use in perfumery. The same authors¹⁸ describe another method of obtaining decyl aldehyde which is briefly as follows: fusel oil contains from 2.5 to 7.8 per cent of capric acid and on reduction by the Sabatier method (hydrogen and platinum black) decyl aldehyde is obtained in a 70 per cent yield from the capric acid. Decyl aldehyde is added in the preparation of Chypre perfumes to the extent of perhaps 1 part in 10,000.

Undecylic aldehyde $\text{CH}_3(\text{CH}_2)_9\text{CHO}$ is made from the crude lauric acid which is obtained from coconut fat. The lauric acid is treated with phosphorus pentachloride to give the acid chloride, lauryl chloride, and this is brominated

and hydrolyzed to give bromolauric acid, which on treatment with caustic soda is converted to hydroxylauric acid. On heating hydroxylauric acid, undecylic aldehyde is produced. It has an intense fruity odor with a definite floral note. It will be noted that on heating the α -hydroxylauric acid, a carbon atom is lost and the chain is shortened; this matter will be referred to again.

Dodecylic aldehyde $\text{CH}_3(\text{CH}_2)_{10}\text{CHO}$ is also obtained from lauric acid but by a method which does not involve shortening the chain. The lauric acid is first esterified and the ethyl laurate reduced normally with sodium and alcohol. Lauryl alcohol is obtained and is oxidized to the aldehyde. Dodecyl (or laurinic) aldehyde oxidizes extremely rapidly on exposure to the air, is best kept in dilute alcoholic solution.

The higher members are prepared by methods that are generally similar. Tridecylic aldehyde has a powerful floral odor very suitable for inclusion in bouquets. Tetradecylaldehyde has an odor resembling peach and hexadecyl aldehyde is similar to strawberry and useful in very small proportions.

As is usual the effect of unsaturation is to enhance odor and one of the early members hexylenic aldehyde $\text{CH}_3(\text{CH}_2)_2\text{CH}:\text{CHCHO}$ has an odor of vine and strawberry leaves.

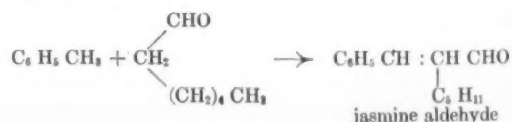
It is most unfortunate that some loose terminology has crept in to the description of certain perfumery ingredients, and some compounds which are not aldehydes at all, are known as "C₁₄ aldehyde," "C₁₆ aldehyde" and so on. The language of chemistry is so logical and exact that there is no excuse whatever for such false descriptions. However, they exist and according to Poucher¹⁹ the composition of these so-called aldehydes is as follows:

| | |
|-----------------------------|---|
| "Aldehyde C ₁₁ " | α -undecalactone. Also called "peach lactone" and "peach aldehyde" |
| "Aldehyde C ₁₀ " | ethyl methyl phenyl glycidate of ethyl. Also called "strawberry aldehyde" |
| "Aldehyde C ₁₈ " | α -nonyl lactone. Also called "coconut aldehyde" |
| "Aldehyde C ₂₀ " | A raspberry mixture |

It should be emphasized that these so-called lactones are not as a rule simple chemical entities, but are mixtures of which the components have never been separated after preparation, and in addition they frequently contain ingredients which have been added deliberately to modify the odor and flavor. They belong to the perfumer's intermediates rather than to his raw material. No possible objection to their use could be upheld; it is their names and only their names that are unfortunate.

JASMINE ALDEHYDE

Jasmine aldehyde has deservedly come to the front in the last ten years. It is a perfectly well-defined chemical compound α -amyl cinnamaldehyde $\text{C}_6\text{H}_5\text{CH}:\text{CH}(\text{C}_5\text{H}_{11})\text{CHO}$. Many methods of preparation have been described. Rosenthal²⁰ stated that the condensation of toluene with heptaldehyde afforded α -amyl cinnamaldehyde which boiled at 140 deg. C. at 5 mm and also α -amyl nonenaldehyde boiling at 130 deg. at 5 mm. The main reaction involved is one of oxidation.



Russian patent 44928²¹ describes a preparation from benzaldehyde and cinnamaldehyde. The two are condensed together in 50-60 per cent aqueous alcohol in the presence of caustic alkali. A layer of α -methyl cinnamaldehyde separates and is purified. As not all of the jasmine aldehyde separates owing to its solubility in the alcohol water medium, this medium is used as solvent for the next preparation, so that none of the product is wasted.

In 1942 Nametkin and Shagalova²² described the condensation of cinnamaldehyde with toluene in aqueous alcoholic solution, using a 1:5 ratio of cinnamaldehyde to toluene. On fractionation jasmin aldehyde suitable for use in perfumery is obtained at 140—1 deg. at 5 mm pressure.

It may be noted that I. G. Farbenindustrie²³ filed a patent in 1927 for the preparation of unsaturated aldehydes by condensing an aldehyde have a $-\text{CH}_2$ group in the α -position to the keto group with an aldehyde of other character using an alkali to effect the condensation, an alcohol and a minimum quantity of water. Amongst the examples given is α -methyl cinnamaldehyde $\text{C}_6\text{H}_5\text{CH}:\text{C}(\text{CH}_3)\text{CHO}$ but no reference is made to jasmine aldehyde. However, in a later patent²⁴ which appears to be an extension of the first, α -methyl cinnamaldehyde is included in the example.

Considerable interest seems to have centered round the odors of the homologues of jasmine aldehyde, and these have been described by Michelet.²⁵ According to Michelet the odors of the members of this series are as follows:

| | |
|---------------------------------|---------------------------------|
| α -methyl cinnamaldehyde | gentle cinnamon, grassy |
| α -ethyl " | mild cinnamon, nasturtium |
| α - η -propyl " | sweet, feebly animal |
| α - η -butyl " | strong, fatty, green |
| α - η -amyl " | very powerful, jasmine |
| α - η -hexyl " | less powerful, jasmine, green |
| α - η -heptyl " | sweet |
| α - η -octyl " | feeble, almond, no longer green |
| α - η -decyl " | very faint |

This series contains members with odors which can scarcely fail to interest the perfumer, and we should believe to intrigue his consumers. Similarly the perfumer's uses of various homologues, including the α -methyl, ethyl, propyl, butyl, hexyl, heptyl, octyl, nonyl, decyl, and phenyl cinnamaldehydes have been reported by Forné.²⁶

USE OF ALDEHYDES IN PERFUMERY

Most natural perfumes contain aldehydes and practically all synthetic perfumes do also. Benzaldehyde will be found in synthetic heliotrope, decyl aldehyde in synthetic neroli and nonyl aldehyde in synthetic rose. The C_8 and C_{10} aldehydes are used in chypre to the extent of 0.01 per cent. The terpene aldehydes such as citral and hydroxycitronellal and the aromatic aldehydes such as cinnamaldehyde not being so powerful as the higher fatty aldehydes can be used in larger proportions. Most aldehydes are subject to atmospheric oxidation and as well there is a tendency in the fatty aldehydes to undergo an aldol condensation or to form polymers in some other way and all these difficulties make care necessary in the use of aldehydes in perfumes. There has in fact been a movement to use the acetals instead of the aldehydes in perfumes, owing to their greater stability. The higher fatty aldehydes in particular are liable to contain impurities which mar their odor.

The use of aldehydes in soap has been discussed by Ruemele.²⁷ The higher fatty aldehydes are usable but are unstable and must be used with precautions particularly in

the selection of fixatives. Suitable fixatives for octyl, nonyl, decyl, undecyl, dodecyl and methyl nonyl aldehydes are listed. The application of vanillin in soap is limited, as it is inclined to turn it brown.

The potentialities of aldehydes in perfumery are immense. They are well illustrated by the case of furfural which has been investigated by Faber.²⁸ Furfural is obtainable from bran, can be made cheaply and could be made in almost unlimited quantities if required. Faber found that it would give condensation products with other aldehydes and ketones, useful in perfumery. Esters of furoic acid and of furfuryl alcohol were also useful and so were esters of furacrylic acid. Such derivatives could be used in white clover, orange flower, chypre and wild lavender perfumes.

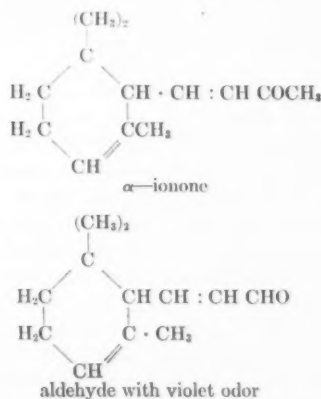
Delange²⁹ appreciated the powerful odorant properties of aldehydes when he wrote:

"Les aldéhydes constituent la classe de composés qui est peut-être la plus abondante en substances odorantes et les dérivés sont nombreux qui, appartenant aux mêmes groupes que ceux que nous avons cités pour les alcools, ont des odeurs intenses : aldéhydes grasses (nonylique, décylques); terpéniques (citral, citronellal); aldéhydes aromatiques benzylique, anisique, phényl acétique, cinnamique, vanillin, heliotropin, etc."

Delange attributed the odorant properties of the aldehydes to the residual affinity possessed by the



group. He pointed out that the "methyl ketone" group in α -ionone may be replaced by an aldehyde group and still the violet odor is retained.



The "green leaf" odor which is so useful to impart freshness and life to a perfume is to be found in several aldehydes. Müller³⁰ lists the following:

2-6 nondien - 1 - al
 α - β hexylen aldehyde
 ρ -methyl phenyl acetaldehyde

¹⁸ Société des usines chimiques Rhone Poulenc B.P. 514452 (1939).

¹⁹ P. P. Shorygin & V. P. Ostrova *Khim. Referat. Zhur* No. 4, 117 (1940).

²⁰ *Ibid.* No. 4, 12 (1940).

²¹ W. A. Poucher, "Perfumes Cosmetics and Soap."

²² A. A. Rosenthal, *Dent. Parfum* 17, 3-5 (1931).

²³ D. M. Alvin-Cutsats, *Russian Pat.* 44928 (1935).

²⁴ S. S. Nametkin & R. Y. Shagalova, *Khim. Referat. Zhur.* No. 4, 118 (1940).

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A Patent Digest of Nail

Polish and Nail

Polish Removers

PROBABLY nowhere can one find more recent information on the subject of nail polish or nail polish removers than in the patent literature which is so often rich in background and practical information.

The following digests of patents owned by the E. I. du Pont de Nemours & Co., Inc., are examples of recent knowledge on the subject. They are self-explanatory and of course anyone interested in using the information contained in these patents for personal gain will have to obtain a license from the Du Pont company.

DIGEST OF U. S. PATENT #2,351,195

This invention relates to a method for preparing non-flowing creams from organic liquids, and more particularly to creams formed in the presence of high concentrations of active nitro-cellulose solvents.

The softening or removal of dried films of lacquers and enamels, particularly those based upon nitrocellulose, has heretofore been commonly carried out by the application of liquid organic solvents. The high fluidity of these solvents, while permitting simple application methods such as brushing or swabbing, becomes a serious disadvantage in many cases as the liquid runs freely over the object and often causes serious marring of adjoining areas. Also, drippings from the surface treated to other painted, lacquered or varnished objects will cause bad marring due to the powerful solvent action of these liquids.

It has been found possible to overcome these disadvantages by bodying up the solvents to form a creamy, non-flowing consistency. This has been accomplished heretofore by incorporating relatively large proportions of waxes, assisted in certain cases by the presence of soaps and water. The waxes normally chosen are those incompletely soluble in the organic liquids at room temperatures at the concentrations used. These products, while originally of a creamy consistency which permits handling without spillage, have a number of serious defects including a degree of instability as shown by the gradual but definite separation of free liquid from the cream. Also, due to the high wax concentration, portions of the wax tend to remain on the

surface of the objects being cleaned, rendering recoating with lacquer difficult and greatly reducing adhesion of subsequent coats of enamel. When paraffin waxes are used and are incompletely removed, a serious retardation of the drying of the new lacquer coating will frequently occur. The high concentration of waxes required has a tendency to reduce the solvent power of the compositions formed. These creams also tend to become fluid during hot weather and to crystallize in cold weather.

This patent provides a method of preparing products having a stiff creamy consistency characterized by their ability to quickly wet and thoroughly soften dried films of lacquer compositions and by a pronounced tendency of the cream to cohere or retain its body during application; by the ease with which they can be removed from the object together with all traces of the lacquer film; and by their resistance to the sweating out of free solvent on storage or during application.

The viscosity of a solution comprising active substantially anhydrous nitrocellulose solvent or solvents, castor oil or its equivalent, and stearic or palmitic acid, is increased by the addition of a small amount of a soluble, high viscosity ethyl cellulose, following which step sufficient concentrated ammonia water (27-29 per cent concentration by weight) is added slowly and with moderate stirring to allow reaction with at least part of the stearic or palmitic acid. A cream is immediately formed, the solidity and coherence of which is a function of the amount of ammonia water added.

The compositions formed are particularly adapted for use as removers for nail polish enamels of the nitrocellulose type, and are characterized by a type of creaminess which has not been hitherto obtained.

DIGEST OF U. S. PATENT #2,261,623

This patent relates to finger nail enamel compositions and more particularly to an improved pigmented enamel for application to the finger nail.

During the past few years there has been a pronounced trend in the nail polish trade away from the older transparent colored enamels to a product which provides a more pleasing opaque appearance when applied to the finger nail. Attempts have been made to obtain this opacity by the inclusion of a white pigment in the composition. Dyes are added and mechanically mixed to produce the tinted shades. This type of finger nail enamel is frequently characterized by undesirable tendencies of the pigment settling out to form a hard cake at the bottom of the container accompanied by segregation of the dye near the surface of the liquid. These compositions are also often found to be chemically unstable, with the result that discoloration occurs causing a decrease in opacity and the formation of an undesirable brown color. This discoloration is caused by a reaction of the pigment with the dye or with certain decomposition products of the cellulose nitrate, which constitutes the major film-forming ingredients in the conventional finger nail enamels. The use of a substantially inert pigment such as titanium oxide will usually obviate any discoloration difficulties, but it does not eliminate the tendency toward segregation of color and settling of the pigment. Zinc oxide of small particle size provides satisfactory non-settling qualities but does not eliminate dye segregation at the surface of the enamel composition and, furthermore, does not prevent reaction with the cellulose nitrate

and certain mechanically admixed dyes, such as rhodamine.

This patent provides an opaque finger nail enamel composition of the dye-tinted, pigmented type which will remain in a substantially homogeneous state and will show particularly no settling of pigment or segregation of dye at the surface during storage in bottles or other suitable containers.

This is accomplished by the utilization of a lake pigment, comprising small particle size zinc oxide as the substratum, in cellulose nitrate finger nail enamel compositions; the diameter of the individual particles averaging about 0.15 micron and the diameters of substantially all of the individual particles coming within the range of about 0.12 to 0.18 micron.

This improved finger nail enamel is characterized by extraordinary stability with respect to color, opacity and homogeneity, and as a result such defects as pigment settling, dye segregation, change of color and loss of opacity, inherent to the customary pigmented finger nail enamels, are practically eliminated.

DIGEST OF U. S. PATENT #2,286,687

This patent relates to finger nail enamel remover compositions and more particularly to enamel removers of a creamy, non-flowing consistency.

The widespread and increasing use of nitrocellulose lacquer enamels for decorating finger nails has resulted in compositions highly resistant to the softening and cleaning effects of soap and detergent solutions. Their removal from the nail is generally accomplished through the use of a liquid remover consisting of suitable lacquer solvents which, while effective, tend to remove the natural oil from the nail and the skin surrounding the nail. Those having the greatest solvent power are generally very volatile so that excessive amounts of cleaner are required for satisfactory removal of the tough, adherent lacquer enamel.

This patent provides a composition having a vigorous solvent action on finger nail enamels, which does not embrittle the nails or remove the natural oils from the adjoining skin. It also provides a composition which can be easily applied and which will soften the nail enamel so that it can be completely removed from the nail by simple wiping with a clean fibrous or woven sheet.

It is of smooth cream-like consistency, which eliminates accidental spilling on furniture and clothing with resultant unsightly marring.

The product of the patent is made by dispersing active liquid cellulose nitrate solvents in a medium (for example, metallic soaps, fatty and waxy ingredients) capable of providing body, that is, capable of forming a homogeneous product of creamy consistency substantially free from solvent as a separate liquid phase.

An example of the product is:

| | |
|------------------------------|----|
| Anhydrous lanolin (wool fat) | 50 |
| Ethyl acetate (99 per cent) | 50 |

It is a soft, smooth texture, creamy mass which can be easily handled with a spatula and placed in containers or collapsible tubes. If desired traces of perfume materials may be added just before cooling to mask the odor of the volatile solvent or for the purpose of obtaining a particularly desirable odor.

This cream when applied to a thoroughly dried finger nail enamel coating by means of a cloth or by means of

the fingers completely softens the film in a few seconds with the further effect that the high percentage of lanolin disperses the lacquer film to a form which allows complete removal by gentle wiping.

DIGEST OF U. S. PATENT #2,195,971

This patent relates to fingernail enamel compositions which afford desirable improvements with respect to working properties, appearance and general durability.

Conventional fingernail enamels, especially those containing substantial quantities of cellulose nitrate, are frequently characterized by an undesirable tendency to shrink during drying and to peel at the edge of the nail. Although it is evident that a maximum content of solid material at a workable viscosity is desired in order to provide adequate build and gloss, the concentration should not be so high that the flowing and drying qualities are impaired, yielding films which are not sufficiently smooth to be practicable. Heretofore it has been the practice to restrict a nail enamel composition to substantially only cellulose nitrate as the solid body producing material in order to obtain a quick-drying enamel, and as a result the important properties of smoothness, flexibility and adhesion are sacrificed. Previously available fingernail enamels also possess an undesirable characteristic known as "bodying" which is a gradual thickening of the enamel by evaporation of the volatile ingredients, when the enamel is stored in poorly stoppered containers.

The present patent provides for the production of a fingernail enamel wherein the several defects of such products previously available are eliminated.

This is accomplished by the utilization of a specific class of resins consisting of polymerization products of acrylic acid and acrylic acid derivatives in cellulose nitrate compositions.

This resin constituent of the new compositions is preferably a polymerization product of propyl, butyl or isobutyl methacrylate, although the higher aliphatic and alicyclic alcohol polymers, such as hexyl, heptyl, octyl, lauryl, cetyl, allyl, methoxyethanol, cyclohexyl and methoxycyclohexyl alcohol esters of methacrylic acid, and the corresponding ester polymers of acrylic acid are likewise suited. In general, polymerized esters of an acrylic acid may be used.

The resins of the patent have been found to be of particular merit in fingernail enamel compositions. They do not materially increase the viscosity of the enamel, and hence permit the building up of a high solids content which in turn allows a lower concentration of cellulose nitrate thereby eliminating undesirable shrinkage tendencies and separation of the film from the fingernail surface. The tendency of "bodying" when stored in poorly stoppered containers such as is experienced with the conventional fingernail enamels, is substantially reduced when the preferred solvent compositions as previously indicated are employed.

On drying a clear, odorless, transparent film results. The coating does not discolor during exposure and wear: Dyes or pigments which are commonly incorporated in nail enamels are unaffected by the improved vehicle. The enamels afford excellent adhesion, and are remarkably resistant to soapy water, alkali, marring and scratching. These durable compositions are characterized by extraordinarily high solids for a given viscosity, thus providing the requisite gloss and build with one application.

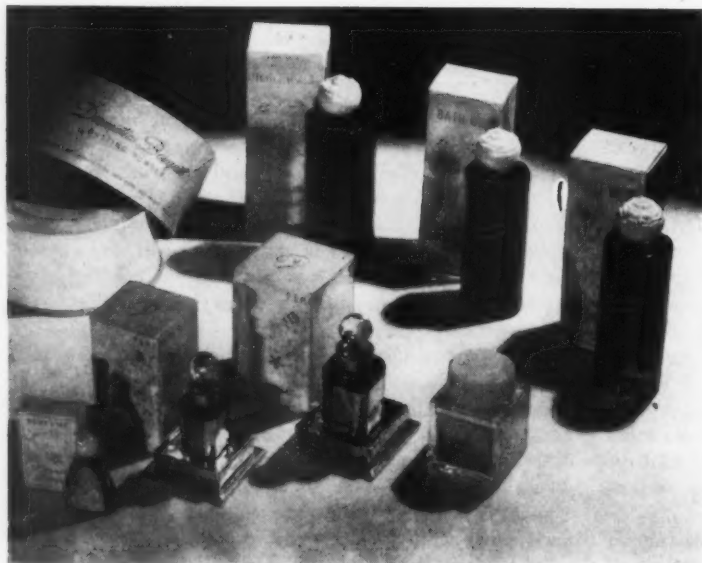
Packaging

P O R T F O L I O



CHANEL

DERMETICS



CHANEL: The new Chanel vanity is a gleaming square of ebony-black lacquer. In the center is the Chanel white monogram. A soft black suede bag is presented with the vanity in a white and black box.

DERMETICS: "Dermetics Bouquet" is a complete new scented line for top-to-toe fragrance, beautifully packaged in multi-pastel tones and gold by Dermetics.

LA CROSS: "Look Twice" is the newest of La Cross' Nylon presentations. Nylon nail enamel and matching lipstick in a gleaming gold case, are teamed up in an iridescent ball package which looks like a Christmas tree ornament.

LA CROSS



PRINCE MATCHABELLI: The newest Matchabelli Perfume Hat Box comes in shiny black, holding crown bottles of Stradivari and Duchess of York perfumes nestled in black net, with two enameled crown stickpins, one black, one aqua.



PRINCE MATCHABELLI

RICHARD HUDNUT: Richard Hudnut puts Cemey face powder, perfume and toilet water into an unusual geometric box with accents of multi-colored gems.



RICHARD HUDNUT

ALEXANDRA DE MARKOFF: A new "squeezable" bottle filled with sweet-scented bath talc is presented by Alexandra de Markoff. The white plastic cap and cord, and green and white label add to the coolness of the frosty white bottle.

DAGGETT & RAMSDELL: Daggett & Ramsdell comes out with a new line of men's toiletries in streamlined, frosted bottles, with firm leakproof caps, finished in gold metal, and ebony and gold tubes. The cartons are in gleaming gold and ebony.

ALEXANDRA DE MARKOFF

DAGGETT & RAMSDELL



Short Adages

by R. O'Mattick

A NUMBER of Essential Oil Houses sometimes are puzzled by the way that the Customs House folks put this or that product into this or that classification when you are importing that or this item from far-off places. Well, the Customs gentry are only human and it isn't always simple to place any and every item into a class where it belongs because some items just don't belong in any class. But the troubles are not limited to Essential Oils, Aromatics, Resins, Balsams and such like. Our dear Congress which often pulls everyone's leg did not make provision for Frogs' Legs so when these are imported they are placed under the classification of poultry because frogs legs taste like chicken! Dr. Rowmateral, who among all other things is a lexicographer of note, tells us that poultry comes from an Old French word *pouleterie* and means "domestic fowl, generally or collectively" but you can't argue with the boys at the Customs Office.

* * *

We should feel most depressed if the experience here recorded were taken to mean that our opinion of perfume experts is not of the highest concentration. Among the great painters, each has his own peculiar and individual way of interpreting a scene. The translation of what each sees or wants to see is an essential ingredient of the genius of painting. Half a dozen men, whose works hang in the renowned galleries of the world can look at the same fishing-boat and catch whatever they wish. One depicts a tiny speck tossed about on a turbulent sea of ink with most of the canvas a blood-orange sun. The theme of another's effort is the weather-beaten face of an old fisherman. A third constructs geometric lines and triangles across the cloth with violent streaks of green and purple. His picture—the most baffling—has the most descriptive name of all—"A Fisherman's Boat Off Ganstrunkett."

* * *

Now, this observation about the manner of painting applies also to the artists who create perfumes instead of pictures. But to our story! We could not recall the odor of "Trattoir de Bagdad" so we asked a number of famous perfumers about it. One said: "Mainly rose with a dash of oak moss and some aldehydes." Another: "Top-note of Jasmin with some neroli and a trace of vetivert acetate." A third: "Contains a considerable amount of cassie absolute, some violet and some dimethyl trimethyl monotonous ketone." You can see from this what a collection of divergent views we gathered and how puzzled we were and why we thought of artists who paint the same scene in many moods.



We also consulted an Essential Oil Salesman. Said he: "Three parts of our Base Z-Z-9 and two parts of our Base Sneezzerone will give you an exact duplication of 'Trattoir de Bagdad.'" Essential Oil Salesmen have that assurance about results and that devout faith in their wares which has also been beyond our understanding! We went out and bought a bottle of Trattoir de Bagdad (\$48.34 plus tax). Then we tried the suggestions of the perfume experts to see how close were their guesses. Each had seen in Trattoir de Bagdad a part of the scene and may the Great Prophet be kind to them all. But no concoction we made, whatever suggestion we followed, whatever we mixed or distilled or dissolved, gave us anything like the original odor (\$48.34 plus tax).

* * *

Then in desperation, we thought of our friend, the Essential Oil Salesman, the man of assurance and of faith in his wares. We had tried everything—why not his formidable formulation? A hurried call brought us his small samples and large sales-talk. Carefully we measured out—of Base Z-Z-9, three parts; of Base Sneezzerone, two parts. Lo and behold, by the beards of all the Prophets—the mixture not only smelled like "Trattoir de Bagdad"—it was Trattoir de Bagdad! The odor had all the sights and sounds and smells (particularly the smells) of the sidewalks of that ancient and oriental city wrapped up in it.

* * *

Weeks later we ran across another perfume in a small Gifte Shoppe in the small state of Delaware. It was packaged much like the Trattoir de Bagdad—in fact it was as the learned lawyers say *ejusdem generis*. This perfume was only \$26.39 per ounce (plus tax) and it was most appropriately named: "The Thief of Bagdad." The moral of this story? Must there be a moral? All we can say is that (1) Different schools of painting have different ways of painting. (2) You can get a bottle of the Thief of Bagdad for less money than a bottle of Trattoir of Bagdad. (3) Essential Oil Salesmen know a couple of things in spite of their assurance and faith in their wares.

Sale of high-priced perfumes has steadily declined . . . Buyers feel need for lighter

JEAN MOWAT *cosmetic travel kits*

COSMETIC TRENDS IN THE MID-WEST

BUYERS of cosmetics in the Middle West are planning to have plenty of ready money to make purchases of new items that will be offered in November. This is due, they say, to the fact that many manufacturers are planning lines much later than usual and because the first of November there are usually some attractive sets offered that can be sold immediately.

In previous years most buyers have taken in as much of their holiday goods as possible before November. This year, even in the face of slow deliveries, a change in policy has been made so that last minute new items can be shown for the holiday season for the first time in leading stores. Naturally, a considerable amount of holiday purchasing will be done at the September toiletries show, which is a month later than it has been held, again indicating the desire on the part of both maker and seller to buy closer to the time of consumer demand and sale.

PERFUME PRICES MUST COME DOWN

Buyers throughout this area are strongly of the opinion that unless perfume makers are willing to absorb some of the cost of production—more than is now being done—this business, which had a boom during the war years, will be difficult to recapture. During the Summer months there was little sale. A check on retail purchases shows that perfume sales have steadily declined since the first of the year when the new prices became effective.

Some weeks ago when one of the leading makers re-

duced prices, and this was widely featured in the daily press, there was an instant demand and an excellent sale recorded. Women stated to the clerks that the price on this particular perfume was most satisfactory and the volume of business placed would indicate that the price was right. There is not much call for French perfume, prices are too high say all buyers. No advertising is being done and while displays are smart they are merely attractive to the woman who happens to be in the department.

In previous Summers the sale of high priced perfumes to out-of-towners had been large. This year it is small in comparison. Many women are selecting colognes and ignoring perfumes, unless they can be had in drams. The dram shops are doing a fair sale but nothing compared to last year when a woman purchased several scents and then made repeats.

BUYERS SUGGEST PERFUME EDUCATION

Many buyers have harped about the high prices on perfumes and do nothing about it, others have some definite ideas on how to combat these prices and give information to the woman who knows only that they are costly.

Several buyers would like to see the perfume makers of this country get together on an educational campaign. "High prices today are a must for the average perfume maker," was the summation, "but why they are high is a story which every woman and sales clerk should know."

"To the average reader of a newspaper the civil war in India is merely a headline—she does not know it means costlier perfumes. The civil wars in the islands about the world from which come some of the precious perfume ingredients is another reason for essential oils and flavors to have jumped from a low of pre-war days of say \$50 or \$75 a pound to \$500 and \$1,000. The clerk behind the counter does not put these two facts together, and certainly the perfume makers are not indicating any reason for the high cost of a tiny bit of scent," state buyers.

"I agree with all that," said a buyer, when asked her opinion, "but I'd like to suggest that the perfume manufacturers and the importers (too many people think all perfumes come from France) should get busy and use some advertising to tell the women about the effect these wars around the world have on their fragrances. I'd also like to see some articles on how perfumes are made—from the beginning, through the long storage and testing to mature and 'ripen' the scent, until it is bottled for consumer use. Until this is done," she added, "we'll continue to have definite resistance to the present scale of prices. We can all reduce just a little and retain the business we've built up the past ten years . . . or we can stick our heads in the sand, and lift it to find that business has vanished . . . that will require a generation to rebuild," she said, "and I'm not a pessimist, either. But we see both sides of the picture and as the ultimate distributor, are caught in the middle."

COLOGNES AND PERFUMES

What is the difference between a cologne and a perfume? That is a question cosmetic buyers would like to have made plain to their customers. They would like pamphlets to distribute to their own employees and throughout the stores as educational material. How they should be used . . . when a cologne is correct . . . when a perfume is correct . . . these are ideas that the retail trade wants to

pass on to its own customers to keep them better informed. Colognes are active in sale but there is also complaint from the customers that they do not last. Some buyers who have made a careful study of this situation state that more essence is needed if the present volume of retail sales is to be maintained.

"These have been cut too much," said a buyer, "with the result that sales while steady are not as strong as they should be. I've talked with other buyers and they report the same customer complaint and we are powerless to do anything about it. The most satisfactory Summer sale has been on certain types of cooling colognes, made especially strong, to retain fragrance throughout a day.

"Now that a cologne deodorant is offered, we are keen to observe the results in sales and consumer reaction. Unless makers of liquid colognes can give us more fragrance, without changing the prices, more business will go to the dry perfumes and the more solid types, now widely featured," commented this buyer.

NORTHWEST CITIES OFFER NEW IDEAS

St. Paul and Minneapolis are among the most progressive cities throughout this area, and with their large schools and universities, have an excellent cosmetic business. The twin-cities and Milwaukee were among the first in this area to feature creams that will retain youth . . . and stress the smartness of dry perfume for lasting fragrance and freshness.

Into this category of newness goes the presentation of a cream rouge, lipstick and face powder that will make fading tans "romantically lovely . . . with a languid hint of tropical peril" which Dayton's sponsors.

MIDDLE WEST BAKE-OVEN

During last month cosmetics had weather competition and lipsticks curled, rolled up and changed color—or so it seemed. When mercuries all through this section remained in the high 90's nights and over 100 during the day, getting a lipstick to stay on was a problem. Younker's featured a liquid rouge and found it has produced a new following. This idea in rouge is not new and may be an idea which the Deep South with its long hot days and nights with high humidity could use to advantage.

Rothschild's of Kansas City offered two new presentations in deodorants . . . a powder or a lotion. Both have been tried under these very hot days and found to be successful.

Water softeners, soaps and hand lotions all had an important place in this extremely hot weather selling, for continuous bathing was imperative if one wished to remain even decently fresh. The number of leading stores, and shops, featuring hand lotions during the hot weather was almost as great as in zero weather, due to the long hours in the hot sun, and the frequent baths that removed oils from the hands and left them dull. The lotions and creams removed the dead skin and gave new brilliance and beauty to the hands: Under the same general heading came the tubed shampoos and the ones which featured the oil shampoo, both of which were a must for weekly or daily use.

MEN'S TOILETRIES

A leading specialty shop in Chicago that does a very large business in men's toiletries, selling to both men and women, reports that 90 per cent of all its sales are made

to women, and the repeats are also made to them. Items are usually a gift purchase, and red is the favored container color.

The buyer of this department does not think that there will be any increase in this sale, but that it might decrease, for the men do not buy anything for themselves except talcs and shave lotion. The idea expressed by this buyer was that men's toiletries are now so limited to fine lines that there is no place for a new line and that the present ones may well be cut until only the real sellers are retained.

Hudson's of Detroit have been using advertising space, and smart displays, to present the idea of a cool shave and suggest that this makes a disposition brighter, if after shave lotion and fine talc are added. It makes a point of stressing these as "grooming essentials," and as they are offered in the men's sections there is more interest among those who will use the product than if they were shown in the regular cosmetic section.

A number of buyers are eager and anxious to have all the men's toiletries in the men's section where sales are much better. Women will continue to buy there as they do in the present departments but most buyers believe it would mean more sales direct to the men.

The recent back-to-school groups all had one point in common—the travel kits were too heavy. As many of these girls and boys off to school go by air, these kits must be light and yet contain a full equipment of cosmetic items.

COSMETICS IN TUBES

A knock-about kit that can be filled with tubes of the desired cosmetics is wanted. When empty these can be replaced even as is a toothpaste tube. Department store buyers say there is a need for a light kit but do not give approval to the tubes which they assert will be more of a 5- and 10c item and will not fit into their sales program. This may be true, but what the public continues to demand it generally gets and many a smart package can be made with tubes if a clever manufacturer does the designing.

PURSE SIZE BOTTLES

A second want: A purse size bottle (easily refilled) of cologne, and a smaller bottle for perfume. Where people live in cities and travel long distances to work, such a bit of refreshment during the heat of the day is an easy way to sell more colognes of the cooling types. In the country this is also an aid to freshness for people going or coming from major cities, and for travelers on the road, the trip can be made more pleasant with the application of a cooling cologne to forehead, wrists and back of neck.

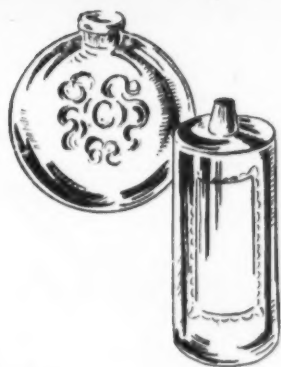
The addition of a small bottle to my lady's present beauty equipment carried for daily use en route to and fro would be most welcome. For the holiday trade and next Summer it is an item which most buyers feel the trade should recognize as a must.

BOTTLE COLLECTORS HAVE A PRICE HEADACHE

Any maker of perfumes or colognes who tells his story of the product will do well to incorporate, even in his daily mat service to the trade, a word about the bottleneck in the bottle industry. The Russian occupation has reduced imports and prices are higher than at any time. Buyers want to know what to tell collectors . . . and their own dram perfume trade. Perhaps they'll learn this at the coming show.



Etan Tibet



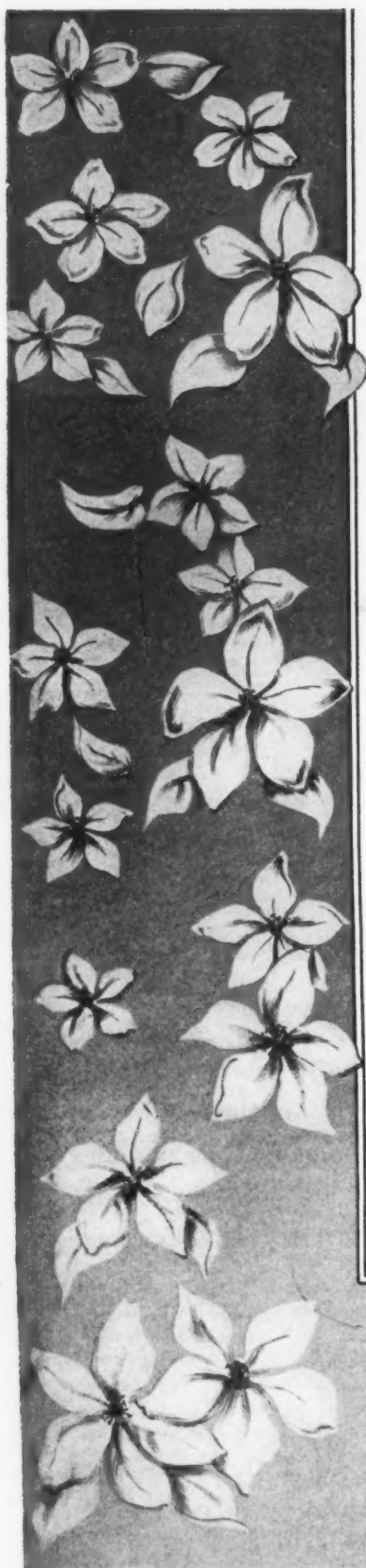
Floral creation of unusual intriguing odor...suggestive of the subtle charm and mystery of the native background with an appealing character that lends delicate bouquet to toilet waters and perfumes.

Samples upon request

Florasynth LABORATORIES, INC.
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FLAVORS

Apple Flavors

Active interest in apple flavor compositions has been maintained in both natural and synthetic preparations since the beginnings of the industry

MORRIS B. JACOBS, Ph.D.*

IN 1851, at the great world fair and exhibition held in London, one of the novelties presented were artificial fruit essences. These were solutions of esters and one of these solutions was an apple flavor essence. It is probable that this was a solution of isoamyl isovalerate in alcohol, one part of the ester in about 6 to 8 parts of alcohol.

With passing time the number of components of the apple ester mixture grew greater in number but many of the components used today were employed years ago. There is an increasing tendency to use a proportion of natural flavor.

There are several ways of grouping apple flavors but for the purposes of this article it will be convenient to consider them in the categories of natural apple flavors, synthetic or artificial apple flavors, essences, etc., and mixtures of these.

NATURAL FLAVORS

It would not be possible in such a brief article to give all methods of the preparation of apple flavors but certain generalized details can be given. Possibly the simplest natural apple flavors are those made by vacuum evaporation of apple juice without change of acid concentration. These preparations are known as apple concentrates and in these products most of the volatile flavor is lost. Apple sirup¹ is the term used to designate concentrated apple

juice preparations in which the acid concentration has been reduced.

Vacuum Distillation.—In certain juice concentration processes it is customary to concentrate the juice to about one-sixth of its volume. This is done somewhat according to the following lines by the batch method. Some 100 gallons are distilled, the first 10 gallons are recovered, the next 75 gallons are discarded, and the 15 gallons residue remaining in the still are reserved. The distillation is repeated with four more 100-gallon batches giving a total of 50 gallons of primary distillate, 375 gallons of discarded distillate, and 75 gallons of reserved residue. The 50 gallons of primary distillate which contain most of the volatile flavoring principles of the apple are redistilled and again 10 gallons are recovered. These 10 gallons are added to the reserved residue of 75 gallons to give a total of 85 gallons of apple flavor concentrate and the mixture is filtered. At times, an equal volume of 95 per cent alcohol is added to the reserved residue to precipitate the pectin, proteins and some of the salts. After permitting the alcoholic mixture to stand, the supernatant liquid is transferred to a still, the alcohol is distilled off, and to the residue is added the 10 gallons of primary flavor distillate, as before.

Much of the aroma of apples is in the peels and when fresh peels are available these lend themselves to the manufacture of apple flavors. Some processors favor permitting the apple material to ferment before distillation on the principle that more flavoring matter is made available.

* Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

Alcoholic Distillation.—In addition to the use of vacuum as a means of lowering the temperature of distillation, ethyl alcohol is added at times and the mixture is distilled until virtually all of the alcohol is recovered. This process is repeated several times using in each instance the alcoholic distillate obtained and a fresh portion of fruit material.

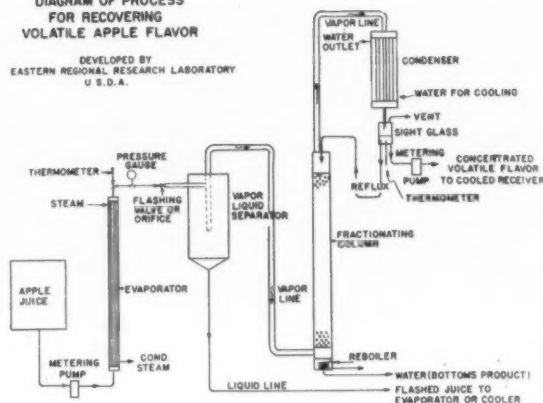
Dried apples and dried apple peels have also been used. In one process, about 112 pounds of material are macerated with 30 gallons of 100 proof alcohol and the mixture is permitted to stand for three days. An additional 30 gallons of water is added and the mixture is transferred to the still. The mixture is distilled under vacuum until about 30 gallons of primary distillate are obtained. This is used to macerate an additional 112 pounds of dried apple or apple peels and the entire process is repeated.

Flash Vaporization and Distillation.—In 1944 and in 1945 the Eastern Regional Research Laboratory of the United States Department of Agriculture published details of a method² developed for recovering the volatile components of apple flavor. The process, illustrated in the accompanying figure, consists of (1) passage through a continuous evaporator or superheating the juice; (2) flash vaporizing the juice at atmospheric pressure; (3) separating the vapors from the unvaporized juice by mechanical means; (4) fractionating the vapors, and (5) condensing the concentrated vapors, thus recovering the flavor.

As mentioned above most of the volatile flavor of apples occurs in the peel, that is, just under the skin, hence for this process it is best to disintegrate the fruit by use of a hammer mill or by grating, prior to pressing for juice. Crushing of seeds should be avoided and only wholesome fruit should be used for the juice, which after disintegration is screened and filtered.

The juice is passed through a single-pass, continuous, high-speed evaporator to vaporize 10 per cent of the juice. A pilot-plant evaporator used for this process was equipped with an evaporator tube with an inside diameter of 0.62 in.; a heating length of 16.5 feet; with 30 pounds steam per sq. in. used in the steam chest. By use of this equipment the juice could be heated for at least 15 seconds with a processing rate of 50 gallons per hour without loss of flavor. The pressure needed to keep the juice in the liquid phase on passage to the vapor-liquid separator was obtained by an orifice plate or throttling-type valve. This is placed in a tube connected tangentially to the vapor liquid

DIAGRAM OF PROCESS
FOR RECOVERING
VOLATILE APPLE FLAVOR
DEVELOPED BY
EASTERN REGIONAL RESEARCH LABORATORY
U. S. D. A.



Flash vaporization and distillation process

separator. The high velocity of the vapor-liquid mixture enables it to be separated by centrifugal action.

The vapor obtained by flashing contains approximately 10 times the amount of apple flavor components present in the juice. In order to concentrate the flavor components still more, the vapor is led to a fractionating column. In a pilot plant, this was a large diameter pipe, packed with ceramic Raschig rings, and 3.5 feet in height for cold reflux. For hot reflux a higher column is required. Such a fractionating column provides a 10-fold concentration of the vapor, thus giving a concentration of flavor components 100 times greater than that contained in the original juice. A small reboiler in the bottom of the fractionating column serves to strip off the volatile flavors that might go to waste with the fractionated water.

The vapors from the fractionating column are passed to a total condenser and the product is drawn off at a rate 1/100 to 1/150 of the feed rate of the fresh juice, while the remainder of the condensate is returned as reflux to the fractionating column. The temperature of the condensate in pilot plant operations was maintained at 70 deg. F.

Instead of a single passage through a continuous evaporator superheating the juice to 320 deg. F. in 3 seconds with subsequent passage to the vapor-liquid separator may also be used. At this temperature a pressure of 75 lbs. per sq. in. is required to keep the material liquid and therefore this pressure must be maintained until it is flashed.

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The rapid evaporator process is superior to the super-heater process in that less fouling of the heating surfaces occurs and steam pressures of 30 lbs. per sq. in. are required for the former while 120 lbs. per sq. in. are required for the latter. In the former method when 30 lbs. of steam pressure is unavailable a high velocity preheater may be used but then the total permissible heating time is reduced to 10 seconds when the time for preheating the juice to boiling is 2.0 seconds, if a product without loss of flavor is to be obtained.

The product obtained by this process has a mildly pungent odor, and when diluted with vacuum evaporated, filtered apple juice gives a full flavored apple juice concentrate. The flavor itself has exceptionally good keeping qualities. For some purposes a baked apple flavor is desirable and this can be obtained by prolonging the heating period to which the juice is subjected prior to the flashing step.

ARTIFICIAL FLAVORS

Over 25 years ago Power and Chesnut³ did considerable work on determining the components of apple essential oil obtained from McIntosh and other type apples. They found that the principal esters present were isoamyl formate, isoamyl acetate, and isoamyl *n*-caproate. Smaller amounts of isoamyl *n*-caprylate, geranyl formate, and geranyl acetate were also present. They also found some geraniol and acetaldehyde. However, in the essential oil obtained from apples other than McIntosh, they found virtually no geraniol or geranyl esters.

On the basis of this work they suggested as one of their formulas, the following:

| Artificial Apple Flavor | |
|-----------------------------|-----------------|
| Component | Parts by volume |
| Isoamyl formate | 10 |
| Isoamyl acetate | 10 |
| Isoamyl <i>n</i> -caproate | 5 |
| Acetaldehyde | 2 |
| Isoamyl <i>n</i> -caprylate | 1 |
| Geranyl formate | 1 |
| Geranyl acetate | 1 |
| Geraniol | 1 |

It will be noted that this formulation does not contain the customary ingredient of synthetic and artificial apple flavors, namely, isoamyl isovalerate, or as it is commonly called, amyl valerate. Power and Chesnut indicate, however, that this substance can also be added and also suggest the use of traces of such essential oils as sweet fennel oil and ambrette seed absolute.

The more common components of artificial and synthetic apple flavors are isoamyl isovalerate (amyl valerate), ethyl acetate, isoamyl acetate (amyl acetate), ethyl butyrate, and geranyl acetate. In more recent years, cyclohexyl acetate and cyclohexyl isovalerate have also been suggested. Other common components are ethyl isovalerate, geraniol, ethyl enanthate, isobutyl valerate, malonic acid and its ethyl ester, isoamyl formate, as mentioned, and isoamyl enanthate. A number of formulations using these components and some 50 other components are listed by Jacobs.⁴ Essences are prepared by dissolving these ingredients in alcohol and other solvents.

FORTIFIED FLAVORS

A relatively common practice for strengthening the flavor of some natural products was the addition of isoamyl isovalerate to the product. Thus by the addition of

this compound in the ratio of 2 ounces to 100 pounds of raw fruit material prior to distillation a more intensely flavored product can be obtained.

With the development of the flash vaporization method for the production of apple flavors, fortification can be performed by the addition of such concentrated apple flavors to various food products. Undoubtedly such practice will find increasing use in the future.

¹ Mottern and Morris, Eastern Regional Research Laboratory, U. S. Dept. Agr. AIC-37, Jan. 1944.

² Milleville and Eskew, Eastern Regional Research Laboratory, U. S. Dept. Agr. AIC-63, Sept. 1944; Supplement Apr. 1945; and Jan. 1947.

³ Power and Chesnut, U. S. Patent 1,366,541, 1921; 1,436,290, 1922.


⁴ Jacobs, *Synthetic Food Adjuncts*. Van Nostrand, New York, 1947.

Flavored Notes

Propylene glycol, among many other properties, will also serve as an antifreeze when used as a diluent in flavor formulations.

* * *

There are many formulations in the literature which contain components that are not offered for sale by commercial flavor firms or by chemical firms. Such formulas are consequently often belittled. The failure to obtain such components cannot be considered a reflection on the compounding chemist nor on the formula for that matter. It is often found that when such substances are synthesized and incorporated into a flavor composition, the formulation is markedly improved. Sometimes the reverse also happens. Thus from a practical point of view, a compound must actually be employed before it, or a formula containing it, can be properly evaluated.—M. B. J.



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CITRUS OIL EMULSIONS WITH

Sodium Carboxymethyl Cellulose

J. W. BARBER*

FLAVORING emulsions prepared with natural emulsifying gums such as tragacanth are generally accepted as satisfactory for most purposes by the trade. In recent years, however, the quantity and quality of natural gums has been very uncertain and the price has increased considerably. With the advent of synthetic materials of comparable properties, such as cellulose ethers, an investigation was made to establish the extent to which these synthetic water soluble gums might be substituted for natural gums. This program of tests with various cellulose ethers has indicated that sodium carboxymethyl cellulose is an excellent emulsifying agent for citrus oils.

CARBOXYMETHYL CELLULOSE IN ICE CREAM INDUSTRY

Carboxymethyl cellulose is a chemically processed cellulose. The soluble form most generally used is the neutral sodium salt and is sold under the trade name of "Carboxymethocel S." This material is produced in four viscosity grades that are designated as low, medium, high, and extra high viscosity types. Probably the largest single use of this material is found at present in the ice cream industry, where the extra high viscosity type is employed as a stabilizer for ice creams, and to some extent sherbets and ices. Other uses have also been indicated since this cellulose ether may be partially substituted for natural gums in meringue powder, jellies, pie fillings, puddings, and also used as a stabilizer for oil-in-water emulsions such as salad dressings and flavorings.

EMULSIFICATION PROPERTIES

In order to determine the emulsification properties of carboxymethyl cellulose, citrus oil emulsions were prepared with cellulose ethers alone and also with various combinations of other synthetic wetting and emulsifying materials, as well as with glycerin and propylene glycol. The stability of each emulsion was evaluated by storing them at room temperature and at 110 deg. F. and then observing each sample at regular intervals for phase separation and the oil particle size. The survey showed that

the addition of wetting agents and polyols to emulsions prepared with sodium carboxymethyl cellulose did not improve their stability or temperature sensitivity to any large extent. It was also found that emulsions prepared with sodium carboxymethyl cellulose exhibited better stability when stored at moderately high temperatures than those prepared with other cellulose ethers. For example, citrus oil emulsions containing methyl cellulose were unstable at elevated temperatures but were comparable at room temperature to those prepared with sodium carboxymethyl cellulose. The shelf life of all emulsions was reduced when they were held at a temperature of 110 deg. F. This would indicate that they should be stored at room temperature whenever possible. Citrus oil dispersions prepared with sodium carboxymethyl cellulose did not fail for 160 days at 110 deg. F., although there was considerable mold growth at that time in all samples that did not contain a preservative. The same emulsions stored at room temperature appeared to be in excellent condition after 330 days.

Following the conclusions reached in the initial phase of this work, the investigation was narrowed to finding the optimum concentration and viscosity type of sodium carboxymethyl cellulose required, and the best method of preparing citrus oil emulsions with this material. Of a series of approximately 75 emulsions prepared, the best results were obtained from an emulsion of the following composition:

| | | |
|--------------------|---------------------|--------------------|
| Finished Emulsion: | Oil phase | 5 per cent (vol.) |
| | Water phase | 95 per cent (vol.) |
| Oil phase: | Citrus oil | 100 per cent |
| Water phase: | Carboxy Methocel S | |
| | Low viscosity | 3 per cent (wt.) |
| | Medium viscosity | 1 per cent (wt.) |
| | Water | 96 per cent (wt.) |
| | Water-soluble color | q.s. |
| | Preservative | q.s. |

This emulsion was prepared by dissolving the Carboxy Methocel S in water at a temperature of 140-160 deg. F. with vigorous agitation. When the solution became uniform and cool, the citrus oil was added slowly to the water phase, with sufficient agitation to break the oil into very fine globules. Emulsification was completed by homogenizing to further reduce the particle size of the dispersed phase.

Although the oils used in this study were California cold-pressed sweet orange and lemon oils, it is possible that other essential oils may be emulsified by sodium carboxymethyl cellulose using the above formulation as a starting point. The oil phase may be modified to include other flavor builders and concentrates. However, the water phase should contain approximately 4 per cent by weight of the cellulose ether and the ratio between the medium and low viscosity types should be retained to achieve the proper emulsion viscosity, and to maintain the emulsifying properties of the Carboxy Methocel S.

STABILIZER FOR OIL-IN-WATER EMULSIONS

Although sodium carboxymethyl cellulose has been employed as a stabilizer for oil-in-water emulsions for some time, the ability of this ether to act as the emulsifying agent has now been demonstrated. The moderate cost and uniformity of Carboxy Methocel S should enable it to replace the more costly natural gums of variable quality.

*Ann Arbor Laboratory, Dow Chemical Company.



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SOAPS

The Potash Soap Manufacturer as a Chemurgic Influence

DUDLEY J. BACHRACH*

POTASH soap factories, located largely in our cities, are only too likely to take their raw material for granted. It is in times like these when everything in the agricultural lines is short that they recognize their direct and vital stake in an abundant farm program. Conversely, the farmer probably never heard of potash soap affecting his income; so the article below we trust will disclose the direct relation potash soap manufacture bears to the production of vegetable fats, oils, and fatty acids from the seeds, nuts, fruits, and beans that the farmer grows. A growing potash soap industry is bound to have a favorable effect on farm income.

Practically everyone has come in contact with soda soap—the nice handsized bars of toilet soap so eloquently advertised by the various manufacturers. Comparatively few realize the vast difference between potash soaps and the ordinary common toilet or laundry soap bar. There are differences in the two principal ingredients—on the one hand the oils and fats used, and on the other the nature of the alkali needed to saponify them. Potash soaps are made from bland oils. These oils which abound on our farms include cottonseed, peanut, corn, soybean, olive, perilla, castor, sunflower, sesame and avocado seed and any oils that may be processed from seed and kernels.

FARM BYPRODUCTS TO POTASH SOAPERS

No matter what a farmer has left over in the way of byproducts—these can be extracted for oil that can be

used by the potash soaper. For instance—tomato seed, grapeseed, walnut, pecan, apricot seed, prune seed, grapefruit seed, orange seed, peach seed, melon seed, and others can readily be used. Spoilage does not matter much. The older an oil is the higher the free fatty acid and the darker the color. However, these disabilities do not bother the potash soap maker. He can still make soap out of them.

Fats from the animal—tallow and grease—are the mainstay of the soda soap manufacturers, but they are not used by potash soapers. Before the farmer can get his revenue from animals he first has to feed them, bring them to market, and then that is the last he sees of them. The revenue is indirect in the sense that he sells the animal instead of the direct product of the farm. However, in the case of raw materials for the potash soap industry, he is assured of a ready market for any oil that he can haul to a central crusher in the way of seed or kernels.

Before the world shortage of oils and shipping, the potash soapers used diverse oils from foreign countries such as teaseed, rubber seed, hempseed, Japan wax (really a vegetable fat). There are not domestic substitutes for the high lauric acid oils and these differ from the American oils in that they contain two ingredients called glyceryl laurate and or glyceryl myristate. Without this type of oil the rich sudsing and quick lathering properties of the potash soap would disappear. There are quite a few oil crops of this type grown in Central and South America. Cohune nut oil comes from Mexico and Honduras. Babassu nut oil from Brazil as well as murumuru nut oil. Coconut oil has also been highly publicized as the prime source of high lauric acid oils. If the farmer in the warmer zones of the United States could grow Cohune nut, babassu and murumuru, a ready market would be found for every pound for the soap industry. The first two are literally

* President, Clifton Chemical Co., Inc., New York, N. Y.
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"hard nuts to crack." However, if they were grown in this country it would be only a short time until crushers of oilseeds would devise an economical way to open the Cohune and the Babassu nuts.

TALL OIL DISTILLED FOR SOAPS

Another source of fat of prime interest to the potash soap manufacturer is derived from our forests. A vast amount of wood is processed into paper and byproducts every year. For many years one such byproduct was overlooked because none took the trouble to purify it enough to be used by the soap industry. I refer to tall oil. This oil is a mixture of rosin-acids, fatty acids, and unsaponifiables, generally of a dark brown color and an unsavory smell. By virtue of improved distillation methods the color has been much improved, the rosin-acids have been reduced and in some cases nearly eliminated, and so have the unsaponifiables. Today some grades of tall oil are a very good substitute for the bland fatty acids derived from our seeds and nuts. So, wherever the farmer owns forest land he can feel that with the passing of years, the wood will become more valuable because it can be processed not only into paper and board, but into numerous chemicals which may ultimately be worth more alone than the wood from which it is derived. Every manufacturer who distills tall oil into an improved grade of vegetable fatty acids is helping our agricultural and forest industry. A pure tall oil freed virtually from rosin and sterols produces a grade of fat similar to that derived from a mixture of soybean and olive oils. It produces very unguent potash soaps, both soft and liquid.

At this point one may ask, why potash soaps? What are they and what do they do?

Potash soaps generally contain from 15 to 60 per cent of soap solids. They are either liquid or paste in form. They are very easily soluble so that the paste forms can be dissolved into a rather concentrated solution which can be diluted by the user by the instant addition of water. They have what is known as high detergency, in that the low surface tension of a potash soap grips underneath the dirt or grease and lets it float away. Potash soap manufacturers use potash instead of soda in order to make a soap soft and unguent. For instance, a 10 per cent soda tallow soap would solidify into a hard jelly whereas a 10 per cent potash soap would be liquid. An 85 per cent soda soap would be as hard as a brick and 85 per cent potash soap would be a soft paste. Potash soaps can retain more water without separation of ingredients than can soda soaps, which probably is one of the reasons for their better cleaning power. The principal objection to potash soaps is their inconvenience. They cannot be molded into cakes. Instead they have to be shoveled out of a barrel, and then dissolved. But once a liquid is made the liquid can be stored in either dispensers or receptacles, so that they are instantly available for any industrial use.

During the past ten or fifteen years the use of potash liquid soaps in factories, public washrooms, restaurants, service stations and in most places where people congregate, has increased enormously. Strangely enough, World War II gave liquid soap a boost in a most unexpected quarter and in a way to benefit the American farmer. Before the Japanese War started, liquid soaps were made almost exclusively from imported coconut oil and potash. A well made liquid soap produced from these ingredients

gave a high foam and an excellent detergency. But this type of soap had one objection. In the Winter many people complained of chapped hands from the use of liquid soap and all through the year besides there were sporadic complaints of this type. It is recognized that coconut oil soap, due to its greater hydrolytic action, affects a few people who are allergic. After the war started, imports of coconut oil dropped to almost nothing. Potash soap manufacturers were forced to change their formulae. Instead of using 100 per cent coconut oil, they cut it down to 30 per cent or less, using in its place bland domestic vegetable oils and fats. To their great surprise they found out two pleasant features. First, the lather was not materially reduced, merely changed a bit in that a profuse small bubble lather was produced on the hands, and second that the liquid soap produced from the new mixture (a small part coconut and a large part domestic oils) was much milder on the skin. Many concerns who got quite a few chapping complaints in the Winter went through the cold weather season with either no complaints of chapping or very, very few. Due to the advantages of adding domestic vegetable oils, it is doubtful if liquid soap manufacturers will ever go back to 100 per cent coconut oil no matter how plentiful it may become.

The total amount of liquid soap produced in 1945 is estimated at 13,000,000 pounds dryweight of oils and fats used, so that of this quantity about 9,000,000 pounds probably will be obtained from domestic sources hereafter, and will grow with the growth of the industry.

The manufacturers of liquid soap dispensers have gotten out quite a few simple and practical models, which aid the public in using liquid soaps economically. Some models are fastened to each washstand, others are attached as a part of the plumbing equipment. Now that metal and glass are more available, the use of liquid soap in dispensers will no doubt grow apace.

LIQUID SHAMPOO

One of the principal uses of potash soaps for the housewife is that of liquid shampoo. The liquid shampoos are stored in bottles where a few drops can be poured on the head. Due to the high concentration and low surface tension of the potash soap, an immediate rich creamy lather forms on the head with very little rubbing assistance. The liquid soap works its way through the grease and dirt and is finally rinsed away, soap, dirt, and oil in a flurry of water. Many beauty shops make their own shampoo by dissolving the potash paste in water. It dissolves readily without stirring provided it is left to stand awhile and it is then ready for instant use. An increasing use of potash soap, one step removed from the housewife, is wet-cleaning soap, paste and liquid. These are low titre, high lathering potash soaps, which aid so much in the cleaning of wools, white flannels, silks, synthetic fabrics, rugs, etc. Their advantage lies in their instant solubility when mixed with water, that they need no extra chemicals for detergency, and in their economy in use.

The low surface tension of potash soaps is especially valuable in the wet-cleaning of fabrics because, generally speaking, they clean many fabrics in cool or lukewarm water where boiling would otherwise be needed. There are many instances where too high a temperature spoils fabrics so the high detergency of potash soaps is especially valuable in these instances. The use of potash soaps for clean-

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mg rugs has grown increasingly popular and there are many preparations both in the households and industrial field made of potash soap which do this work nicely.

Another use of potash soap is to clean automobiles, railroad cars, floors and woodwork. Here again the instant solubility of the liquid potash soap or the liquid made from dissolving the paste is of inestimable value in saving time and labor. Every man hour saved doing unnecessary tasks releases that much more manpower for something more essential or at least saves the user money which would otherwise increase his labor expense. Hospitals generally prefer a potash soap either in paste or liquid form. Here again the instant solubility and laborsaving factor makes the use of potash soap attractive. More and more hospitals today are purchasing a concentrated liquid potash soap instead of dissolving up the paste because even one operation saved amounts to more expense by the end of the year.

SALE OF POTASH SOAPS

The sales of potash soaps are growing rapidly because consumers realize that they are such efficient and economical cleansers notwithstanding the fact that potash soaps are sold in bulk instead of cakes.

It is estimated that last year the potash industry consumed over 40,000,000 pounds of oils, the most of which came from domestic agricultural sources. Thus, this industry affords an opportunity to the American farmer to provide almost any type of common seed or kernel, and any waste seed or kernel for the use of the potash industry. A potash soaper uses oils like a violinist uses the strings of his violin. Each oil makes a definite kind of potash soap so by blending he can use any mixture of oils available for one purpose or another.

For instance, to make a soap similar to that from corn oil, he can use cottonseed blended with soybean or castor oil stiffened with vegetable stearin, or tall oil blended with cottonseed. The possibilities are infinite, almost as far as the combinations of oils that can be used.

In 1945 the soap industry consumed 2,150,000,000 pounds of oils, fats and fatty acids. Tallow, grease and fish oil, and imported oils used totaled 1,900,000,000 pounds. Thus 250,000,000 pounds of oils, fats and fatty acid were derived from vegetable oils.

The potash industry consumed about 40,000,000 pounds of these fats or about 15 per cent. Every pound of increase in the manufacture of potash soaps would tend to increase the total vegetable oil and fat market of the American farmer. Although it is a small industry now, it is a growing example of one that would be of direct benefit to farm chemistry. Ten years from now we hope that with increased amounts of vegetable oils, fats and fatty acids available, the potash soap industry will expand to a sizable factor in farm revenue.

While a number of these remarks apply directly to products grown on the farm, there is one industry that could benefit from a greater use of fruit, melon and miscellaneous seeds. I refer to the fruit canning and processing industry. Some can or process one kind of fruit, some another—they all agree that there are many thousands of tons of seeds as a waste product. Practically all of the seeds can be pressed into bland oils and there would be no need to separate them. They could all be hauled to central crushing plants where they could be pressed or extracted under the name

of "fruit seed oils." Of course, it would be desirable for each oil pressed from its seed to be sold under its name, but in view of the great number of sources, it may not be practicable to segregate each kind of seed. It would be far better for the potash soap and other industries to have additional sources of oils than none, and as the farm revenue would increase with each use of byproducts, the generic name, fruit seed oil, would enable more farmers and processors to sell their seeds than if forced to separate each one into its own group.

Soap Companies Report Profits

Colgate-Palmolive-Peet Co., Jersey City, N. J., has reported a net income of \$9,783,002, or \$4.78 a common share for the first six months of 1947. This compares with \$6,311,156, or \$3.10 a share for the like period in 1946.

Domestic sales for the first six months amounted to \$132,306,711, as compared with \$72,839,504 for the same period in 1946. World-wide sales amounted to \$159,428,336, an increase of \$66,356,808 over 1946.

Procter & Gamble Co., Cincinnati, Ohio, reported net income for the fiscal year ending June 30, of \$32,924,171 after all charges and taxes, equal to \$5.11 per common share. This compares with a net income of \$23,022,241, or \$3.56 a share for 1946. Net sales for the year 1947 amounted to \$533,911,333, compared with \$346,358,246 for the preceding year.

Charles Lund Attending Conference

Charles Lund, Foodstuffs Chief, U. S. Department of Commerce, flew to Switzerland on Aug. 22, to attend the third Food and Agricultural Organization Conference, to be held in Geneva. Before he left he released the information that total production from domestic fats and oils estimated for the crop year 1946-47 is up 158 million pounds from the previous estimate, which was made in July. Total production estimate is down 315 million pounds, however, from the estimate of May.

Establishment of a World Food Council to deal with lowered diets in the world is said to be the primary decision to be made at Geneva. A gradual improvement in supplies is recognized, but it is likely that the world scarcity of fats and oils is likely to last at least until 1950.

Lever Installs Tallow Refining Plant

The Lever Brothers Co., Cambridge, Mass., is installing a large "Solexol" unit in its Baltimore plant. The process, which was announced last Fall, was developed by the M. W. Kellogg Co. The unit, which will be in operation next month, utilizes propane to upgrade crude tallow. Over 98 per cent of the colored tallow charge is removed by the process, it is stated. The capacity of the new installation is five tank cars daily. Waste fat from approximately 1,400,000 animals is required annually to supply the crude tallow for this one unit.

An interesting feature of the plant is the weight tank building, which houses four tanks individually mounted on balance scales. Whenever an inventory is required the operator merely weighs the crude tallow tanks or the refined product tanks.



Pinette

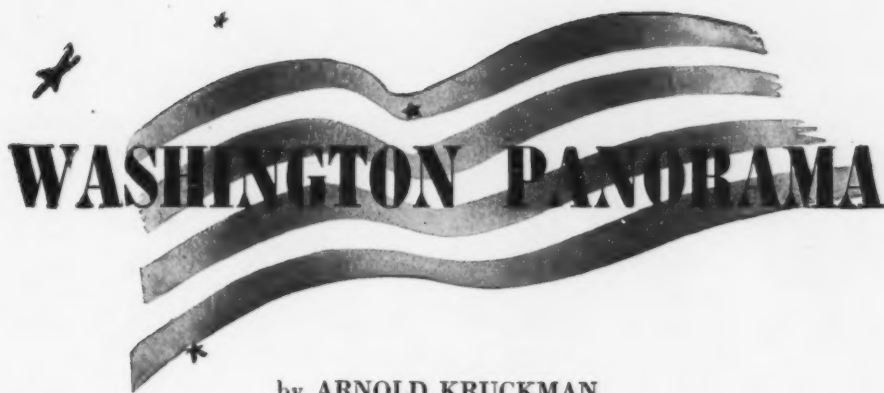
GIVES YOUR PRODUCTS
THE FRESH, CLEAN FRAGRANCE OF PINE

Pinette—the latest development of our Research Laboratories—is all you could look for in a pine fragrance. Its exhilarating balsamic odor combines with a light top bouquet fragrance to give your shampoos, soaps, bath oils, and bath salts the cool, pungent fragrance that is so popular in products of this type. Pinette's long-lasting qualities also make it an excellent oil for use in Incense. We'll be glad to send you samples. Just write to:

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WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

THE potential market for perfumes, cosmetics and toiletries manufactured and sold by Americans will be increasingly important in Japan; and, probably, in other Asiatic countries, according to a statement which was made to Julius G. Schnitzer, one of the chiefs of the Department of Commerce, Bureau of Foreign and Domestic Commerce, who recently spent a month in the Japanese islands.

JAPANESE WOMEN UTILIZE BEAUTY AIDS

The statement to Mr. Schnitzer was made by one of the owners of the largest and most Occidentalized department stores in Tokyo. It is especially interesting to learn that this Japanese is convinced that the women and girls of Japan not only have taken to Occidental clothes, but are utilizing the Occidental aids to beauty whenever and wherever they can obtain them. At present the Japanese business man does not think it is wise to supply the market because the consumer-goods available under the circumstances, are either inferior or too cheap to be the basis of a sound development, or would be too costly and too uncertain for the reason that they would have to be supplied by the black market.

Mr. Schnitzer elicited this surprising information during a tour of the department store, eight stories high, stocked mainly with Occidental goods. He remarked to the owner that he was struck by the fact that there were practically no toiletries, nor cosmetics and perfumes displayed for sale. The Japanese volunteered that before the war he had visited America and Europe each year, and had closely studied the offerings of department stores as well as the products offered by the manufacturers. He said he expected to follow the same custom as soon as conditions permitted him to go abroad. He suggested that in the past he had come to the conclusion he could get the best stock of toiletries and allied products in France. Apparently he thought that France still led the field, but he was not certain that France had the facilities and the resources to supply the goods for which it was noted before the war. It appeared to be in the mind of the Japanese that he might have to turn to America; but he apparently had determined that American goods would have to be competitive in quality as well as in price. As a matter of fact, quality seemed to be more important than price.

Congressman Christian A. Herter, of Massachusetts, and his eighteen associates of the Committee appointed by the

House to investigate conditions in Europe, are now over there, and have split into three groups. They will really do a full-time job. Their journey is by no means a junket. The Herter report is expected to be a determining influence upon the whole Congressional discussion of foreign aid. There are at least two farmers on the Committee, as well as industrialists and merchants; and several of them understand the toiletries and allied businesses.

The Herter report is almost certain to touch upon the problems that are of direct, first-instance interest to your industry. The Herter group was much interested in the announcement, which came out shortly before they went abroad, and which stemmed from the Office of International Trade.

It was a declaration of policy, based upon a U. S. Bureau of Customs recommendation, that merchandise arriving in this country from Japan, and other occupied Pacific islands, should be assessed upon its export value in dollars prevailing at the time of shipment. It is impossible for U. S. customs appraisers to follow the normal procedure of determining the market value of imports from some countries at our own ports of entry.

Almost concurrently it was announced that no export license may be used to clear shipments against orders received by the licensee *after* the date of the license. There also was keen interest in the news that there is sharp competition between the cargo carriers from India to the United States. Theoretically the business is supposed to be divided evenly between American and British lines. Actually, the Indians, under the new Governments, insist that some of their own lines, as well as lines under other flags, shall have a very definite slice of the business.

LATIN AMERICAN IMPORT RESTRICTIONS

Another item of interest in the foreign field is the report that Latin-American countries, by reason of gold and dollar shortages, are increasing import restrictions in various ways. Argentina is reported to have taken the lead. Chile recently promulgated an expanded controls list, and there are added lists from Peru, Uruguay, Ecuador, Colombia, Mexico, and Brazil. Brazil, however, recently has announced modifications in relation to imports of Christmas goods. Non-essential merchandise has been hedged by exchange restrictions. The Bank of Brazil has announced it will consider applications for relaxation of



Woman of Destiny

YOUR COMPETITORS'... AND YOURS!

SHE's no femme fatale... but sales curves rise or fall at her will. Meet Madam Consumer, who can bestow success upon a product simply by saying "I'll take this." Almost always, the product of her choice is the one with superior taste or scent-appeal.

Little wonder many firms find that a simple improvement in the odor or flavor of a product works pure sales-magic. As one of the world's

great suppliers of Essential Oils, Perfume Oils, and Concentrated Flavors, **MAGNUS, MABEE & REYNARD, INC.** has cooperated with many manufacturers in the establishment of completely individualized flavor or odor personality for products old and new.

The facilities of our laboratories and more than 50 years of specialized experience are available to you without obligation.



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through **QUALITY ESSENTIAL OILS,**
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Los Angeles: Braun Corp. • Seattle, Portland, Spokane: Van Waters & Rogers, Inc. • San Francisco: Braun-Knecht-Heimann-Co. • Toronto, Can.: Richardson Agencies, Ltd.

restrictions for articles to be imported for the Christmas trade. Each application will be considered on its merits.

ROBINSON-PATMAN ACT

The ambiguity of the Robinson-Patman Act, as it applies to your industry, apparently has not been discussed very definitely among the Commissioners of the Federal Trade Commission. It is probable that debatable language has been the subject of academic discussions between some of its lawyers, and members of the trade; but there is no indication that the Commission itself has joined in any effort to secure from Congress any legislative clarification of foggy phrases.

It is doubtful whether any alteration of the Robinson-Patman Act could be obtained from Congress, and the White House, under present circumstances. The 1948 campaign is immediately ahead, and the Department of Justice, as well as the Federal Trade Commission, are starting on a really momentous drive to clip the stature of the steel industry. This means an anti-monopoly fight of the most heroic magnitude. Modifications of anti-trust laws are neither popular, nor good politics, at this moment. Meanwhile, it is anticipated the Trade Practice Rules proposed for the Toiletries and Cosmetics industries, which are not published at this writing, are nowhere in existence, but are still going through the period of test and trial, under the supervision of various interested persons. It is expected the proposed Rules will be offered to the trade and the public late in September; and that the public hearing will be held here in the Capital either very late in September, or in October.

WAA expects to dispose of every item of toiletries by January 1. The list includes \$2,500,000 worth of nationally advertised brands of toothpaste, toothpowder, shaving creams, shampoos, hair tonics, and similar goods. Most of these are presently to be found at the Richmond, Va., regional office. WAA also possesses \$500,000 worth off-brand shaving creams, lotions, and similar products, which it hopes to sell for export, in order to keep the merchandise off the domestic market.

Essential oils, which came under the jurisdiction of the Department of Agriculture, were sold to the tune of \$400,000 by WAA during the rise in the market. Similarly the WAA, sold for the Department, 3,500,000 cans of lemon-powder. Another Government development of interest to your industry is the effect of the unification of the Armed Services upon procurement. In the Army, at the Pentagon, they will tell you it means centralized control and decentralized operation. The centralized control comes under the supervision of Public Information Section, Service, Supply and Procurement Division, War Department, General Staff, Washington 25, D. C. Write or phone there for specific information about the procurement of items you sell. Some items are purchased by one service collaboratively for both. In other instances, there is joint buying, by Committees, representing all services.

Bureau of Agricultural Economics reports substantial increases in the supply of fats and oils during the first half of 1947, and predicts still more volume during the second half. The Department scientists at Houma, La., announce they have worked out a way to recover crude wax from sugarcane, much like carnauba wax. The recovery from sugarcane hitherto has been too expensive because a ton of cane bears only two or three pounds of

wax. The new process takes out the wax at the point where it is concentrated in the waste filter-press cake that remains after clarification of the cane juice.

Sugar consumption in U. S. will average 90-95 pounds per capita this year, compared with 75 pounds last year. The Cuban crop is estimated at 6,400,000 tons. The United States is expected to take 3,700,000 tons. Domestic beet and sugarcane production is expected to exceed last year's crop by 12 per cent. The sugar quota bill was approved by the President. Government received reliable estimates that there are 330,000 short tons of sugar in Java for export, but practically none can be moved until the Dutch-Indonesian war is settled. Java sugar does not ordinarily come to the U. S., but the freedom of the supply will relieve the pressure upon Cuba to supply the nations which normally depend upon Java. Philippine sugar production is for the moment arrested by a fight between planters and millers. The planters want 70 per cent of the sugar milled, while the millers wish to supply only 55 per cent to 60 per cent. There is talk of socialization of the mills.

Officials reports indicate Ceylon shipped to us 4,000 pounds of cinnamon bark oil the first quarter of 1947. The American Economic Mission at New Delhi, India, reports musk from Tibet has been offered by Nepal firms for export. Another report reveals that lime-oil from the State of Colima, Mexico, has diminished sharply. Lack of demand, and a blackfly disease in the lime groves, are blamed.

From Hong-Kong, it is reported, we imported the first 4 months of 1947, 31,940 pounds of cassia oil; 906,960 pounds aniseed oil; and 5,224 ho oil. The latest report from Brazil is that it has sent us, in 1947, 34 tons of bois-de-rose essence, and 10 tons of citrus fruit oils. Madagascar recently listed exports of 150 metric tons of clove-oil. From Australia we brought, in 1947, 169,452 eucalyptus oil; 14,000 pounds of oil of cajeput. From Madagascar we also imported this year 8,476 pounds of geranium oil; 8,265 pounds of oil of ylang-ylang; 15,610 pounds of clove oil; and 6,281 pounds of oil of vetiver. From the wartorn Dutch East Indies we have had this year 700 pounds of patchouli, 645 pounds of ylang-ylang; and 898 pounds of oil of vetiver. The British sent us various essential oils this year to the total volume of 52,116 pounds. From Spain we received 6,111 pounds lavender oil; 106,263 pounds spike lavender oil; 39 pounds neroli; 36,001 pounds rosemary; 6,859 pounds thyme oil; 8,960 pounds eucalyptus oil; and 8,026 pounds of various essential oils. Paraguay sent us this year 27,463 kilograms petitgrain oil, and 2,860 kilograms of guaiac wood oil.

A consular report from Mombassa, Kenya Protectorate, Africa, a British possession, states that there is available staigerianna oil from Seychelle Islands. The oil is known as the product of the lemon scented iron bark of Australia. The Eucalyptus Staigiana produces 25 to 40 liters of oil per ton of fresh leaves. It is well known in the perfumery trade, is in fair demand, and sells for 17 shillings per pound. Information and samples apparently may be had by writing to the Department of Agriculture, Seychelle Islands, a British possession.

Ireland seems to be a good market for cosmetics and perfumes. Its imports of this merchandise doubled in one year recently. From France comes word that the supply of soap still continues inadequate. They are short of fats and oils.

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Established 1933.

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takes pleasure in announcing that
arrangements have been made by
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BUSH AROMATICS, INC.

136 LIBERTY STREET

NEW YORK 7, N. Y.

will be sole distributors in the United States and Canada for
Noel Natural and Synthetic Perfumery Materials for the
perfume, soap and cosmetic industries.



A compendium of significant news and views

Harold Hutchins says . . .

"ART OF GLASS"

There is no doubt that glass is one of the true fruits of the Art of fire, since that it is very much like to all sorts of minerals and middle minerals although it be a compound and made by Art. It hath fusion in the fire, and permanencie in it; it is refined, and burnished, and made beautiful in the fire . . . its use in drinking vessels, and other things profitable for man's service, it is more gentle, graceful, and noble than any Metall . . . it is more delightful polite and sightly, than any other material at this day known to the world. It is a thing profitable in the service of the Art of distilling and Spagyricall, not to say necessary to prepare medicines for man, which would be impossible to be made without the use of it; and the great Providence of God is as well known, by this, as in every other thing, who hath made the matter of which Glass is compounded . . . so abounding in every place and region, which with much ease may be everywhere made. The above is lifted bodily out of the 1611 text of Neri's "Art of Glass," which was published over 300 years ago. Everything is spelled correctly, according to 15th Century spelling. And now to fit it into the 1947 picture! Well, we all consider glass so commonplace today that few of us pay it the respect shown by Neri in the 15th Century, but read over again what he says and you'll find it is still true today. Incidentally, we haven't the original book, "Art of Glass," but did find the quotation in "American Glass," by George and Helen McKearin who evidently did take it from the original 1611 text.

GUINEA PIG COSMETICIANS

Cosmetics are now tested on rabbits, rats and guinea pigs to deter-

mine their physiological effects, before they are placed on the market, recently reported Harry Hilfer to the Chicago Section of the American Chemical Society. Apart from the suits brought by women who are peculiarly sensitive to some dyes and skin preparations, which make animal tests necessary, there is a demand for chemical research. A vast new field has been opened up by the introduction of many synthetic materials, which make possible a great diversity of new creams, lotions and other preparations.

"DAYLIGHT" PAINT HUES

Now comes a manufacturer who has developed a number of "daylight" paint colors that are designed to lessen eye fatigue in industrial and office workers. The colors compromise four off-shades of white, formulated to reduce glare from direct and indirect light.

FOR FULL PROSPERITY

To continue to grow and prosper, and provide reasonably full employment, we must accumulate savings needed for capital formation. There is no more important factor for sustained employment than adequate capital investment. Our whole industry demonstrates this. Basic studies by the National Bureau of Economic Research, and more recently by the U. S. Department of Commerce, show that in the past three-quarters of a century, we have had to devote roughly one-fifth of our gross national product to capital investment. The accumulated investment of new capital and the replacement of worn-out and obsolete capital—in the form of plants, machinery and equipment—have enabled us to increase the output of workers.

HOW IT'S DONE

Adherents of free enterprise are pointing to the Census Bureau report that 60,055,000 Americans had civilian jobs last June, compared to the 60,000,000 Henry Wallace hoped to have working by 1950, under his "full employment" plan. They note that Wallace's goal was beaten by three years—not under his plan of government controls and planned management of the national economy, but under the time-tested free enterprise system.

HUMAN RELATIONS

A Mid-Western manufacturer sent personal letters asking employees on his payroll for five years or more what they thought of the company, its management and supervision, and their own future prospects. Replies showed that 65 per cent believe they have done better in their present jobs than they could have done elsewhere. The average has been on the job 8.75 years, has had five advancements, and now gets paid \$1.59 per hour, compared with 59 cents less than nine years ago.

FROM OUR MAIL BAG

From Fred'k C. Bierman, who advertises himself as "Printer to the Perfume Trade," we received samples of his odor testing strips of the sizes and styles he carries in stock. Upon inquiry, we learned that he also makes up these strips in book form in various sizes and styles for the trade. A special paper is used in making the strips so as not to offset odors. If printing is wanted, a special ink is used. This concern also does general printing and for many years has specialized in supplying many of the essential oil houses throughout the country.

FTC STATEMENT OF POLICY

The following is quoted from a recent statement of policy issued by the Federal Trade Commission—"The new policy statement said the Commission would use 'the trade practice conference and stipulation procedures to encourage widespread observance of the law by enlisting the co-operation of members of industries and informing them more fully of the requirements of the law, so that wherever consistently possible the Commission may avoid the need for adversary proceedings against persons who, through misunderstanding or carelessness, may violate the law unintentionally.' "The statement made it clear the privilege of settling cases 'out of court' would not be extended to violations which involve intent to defraud or mislead; false advertisements of foods, drugs, devices or cosmetics which are inherently dangerous or where injury is probable; suppression or restraint of competition through monopolistic practices and violations of the Clayton Act."

"TAILOR-MADE" PLASTICS

Selectron resins, the highly versatile plastics developed by the Pittsburgh Plate Glass Co. research laboratories for top-secret wartime radar and aircraft applications, have been converted for an almost limitless field of post-war applications, including laminating, impregnating, casting, molding, and usages as adhesives.

OUR INVITATION ACCEPTED

Apropos our invitation published in the July issue of *AMERICAN PERFUMER* for information regarding cationic surface-active materials, we promptly heard from Mr. S. Epstein of The Emulsol Corp. of Chicago, who tells us that their two principal developments in this field are "Emcol 888" and "Emulsept" (the latter encompassing the 100 per cent crystalline material, "Emcol E-607") which have been playing an important role in the field of quaternary ammonium germicides, emulsifiers and detergents. These products were further described in several Technical Bulletins we received, 11 and 13, with regard to their physical, chemical and biological properties. Additional Technical Bulletins, F, D, E2, 15, W, R, H, and SP, set forth some very interesting application data with regard to "Emulsept." In addition to these applications, their products have been successfully used in the manufacture of various types of cos-

metic emulsions and other preparations. Some interesting work, we are informed, is being done presently with regard to the use of "Emulsept," as a constituent, along with glyceryl monostearate, as an acid stable emulsifier for anti-perspirant creams and lotions. In answer to our request for information on articles published that concern any toxicity data or other important work that may be of value to the pharmaceutical and cosmetic industries, Mr. Epstein also sent us copies of recent publications by Vivino and Koppányi, as well as one by Dr. A. Whitehill, in connection with the low toxicity of one of their products. Perhaps the latest article published on cationic surface-active materials appeared in the July issue of *The Scientific American*, written by Editor Johnson of *Chemical Industries Magazine*. The article is extremely interesting and presents the subject matter in excellent form for the average reader. Incidentally, full page advertisements will appear in *AMERICAN PERFUMER*, from time to time, telling you more about these cationic surface-active materials developed by The Emulsol Corp. In the event you wish to write this concern for any of the previously-mentioned Technical Bulletins, their address in Chicago is 59 East Madison St., Zone 3.

NEW LOW PRICES

Northam Warren Corp. recently announced that all open-stock orders of Cutex Keenedge Cutlery, as well as orders on the new "show-piece" cabinet containing 240 top cutlery pieces, will be supplied by wholesalers at a new low price that offers a 40 per cent profit to retail druggists.

TECHNICAL PRODUCTS PLANT

General contracts have been awarded for construction of two buildings to be part of the new Technical Products plant at Hammond, Ind., which are scheduled to be completed some time in 1948. The new plant will process special oils for use in the manufacture of soap, rubber, textiles, cosmetics, paint and many other products.

INSPECTION TOUR

An inspection tour and visit to the new plant of Package Machinery Co., East Longmeadow, Mass., will be a feature of the Fifteenth Annual Meeting of the Packaging Machinery Manufacturers Institute to be held at Springfield, Mass., on October 6 and 7. The Hotel Sheraton, Springfield, will be the Institute headquarters.

LETTER WRITERS ACTIVE

It seems as though our gentle hint, regarding recent findings in the field of non-ionic surface acting agencies touched off the letter writers. For those seeking a source of information that may be available in various books and the literature, we present the following—"Uses and Applications of Chemicals and Related Materials," compiled by Thomas C. Gregory, and published by Reinhold Publishing Corp., New York, N. Y.; "Medicinal Uses of Soap," edited by Dr. Morris Fishbein, and published by J. B. Lippincott Co., Philadelphia, Pa.; "Wetting Agents and Detergency," with a foreword by W. Clayton; "Surface Acting Agents," by C. B. F. Young and K. N. Koons; and "Introduction to Emulsions," by G. M. Sutheim. The three previously-mentioned books are published by the Chemical Publishing Co., Brooklyn, N. Y., which recently also published "Colloid Science." A written request to any of the following manufacturers will bring literature on the subject—American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City; Atlas Powder Co., 60 East 42nd St., New York City; Carbon & Carbide Co., 50 East 42nd St., New York City; E. I. Du Pont de Nemours & Co., Wilmington, Del.; Glyco Products, 230 King St., Brooklyn, N. Y.; Goldschmidt Chemical Corp., 153 Waverly Place, New York City, and R. F. Revson, 243 West 17th St., New York City. There probably are many more.

NEW INSECTICIDE

A new chemical insecticide, called methoxychlor, has proved to be 1/40 as toxic to warm-blooded animals as DDT, Dr. W. H. Tisdale, director of the pest control research section of the Grasselli Chemicals Department of the Du Pont company, recently reported in a speech made before a meeting of the International Apple Assn., held in Detroit.

PRICE-CHANGE WARNING

Price changes by manufacturers and wholesalers, warns the National Wholesale Druggists Assn., should be promptly and thoroughly explained to their customers. It is important that when a manufacturer changes his price that he advise his distributors, both wholesale and retail, promptly. It is further important that those manufacturers who are operating under wholesale and retail Fair Trade contracts and who desire to have these properly set up, issue suitable amendments to their contracts at the time they announce price changes.

U.S.I. CHEMICAL NEWS

September ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1947

USI CONTRACTS FOR TOTAL CHEMICAL OUTPUT OF FIRST FISCHER-TROPSCH PLANTS

*Large Quantities of Alcohols,
Ketones, Acids, Aldehydes
And Esters Will Benefit the
Entire Chemical Industry*

An event of the utmost importance to all chemical consuming industries was the recent announcement of a long-term contract between Stanolind Oil & Gas Company and U. S. Industrial Chemicals, Inc., for the sale of all of the water soluble oxygenated chemicals that will be produced at the first two synthetic gasoline and oil plants using the much publicized Fischer-Tropsch process. The plants are being undertaken by the Stanolind Oil & Gas Company (subsidiary of the Standard Oil Co. of Indiana) and Carthage Hydrocol Corporation. The plans also call for the erection of U.S.I. plants at the two locations for the production of other products using some of the Fischer-Tropsch chemicals as raw materials.

Expect at Least 300,000,000 Pounds of Chemicals Annually

It is estimated that the chemicals produced from these Fischer-Tropsch plants may exceed a total of 300,000,000 pounds annually, and include ethyl alcohol, methyl alcohol, normal propyl alcohol, normal butyl alcohol, normal amyl alcohol, acetone, methyl ethyl ketone, acetic acid, propionic acid, butyric acid, acetaldehyde, propionaldehyde and butyraldehyde. In addition, U.S.I. will produce esters, higher alcohols and other chemicals from some of the primary products which will add substantially to the number of products made available by this development.

The effect on the chemical industry of large quantities of these important organic chemicals from this new basic process is obvious.

It will mean a dependable new source of much needed chemicals at prices competitive with those from any other synthetic or fermentation process. It will open up new fields by making available for the first time, large quantities

of such products as normal propyl alcohol, normal amyl alcohol, propionic acid, and butyric acid and it will stimulate development of new solvents, plasticizers, pharmaceuticals, plastics and a host of other chemical products.

It is important to note that all of the alcohols, acids, ketones and aldehydes produced by this process are the normal compounds. These normal compounds are generally preferred but heretofore only the lower members of the series have been available in quantity at reasonable prices.

A 'Natural' for U.S.I.

U.S.I. is in a particularly favorable position to handle these products from the Fischer-Tropsch process. With its many years of experience in serving the industries using these chemicals, its strategically located, nation-wide distribution facilities, its highly trained technical personnel and well developed production techniques, it will offer very valuable service to all users.

Important contributions will also be made by the use of processes developed by U.S.I. for the conversion of some of the primary products into other chemicals.

During the time the plants are being completed, which it is estimated will be approximately two years, U.S.I. will supply all possible technical assistance to users of these chemicals, particularly the new products, so that adequate data will be obtained in sufficient time to take full advantage of their availability.

High-Purity Caustic Made By New-Type Mercury Cell

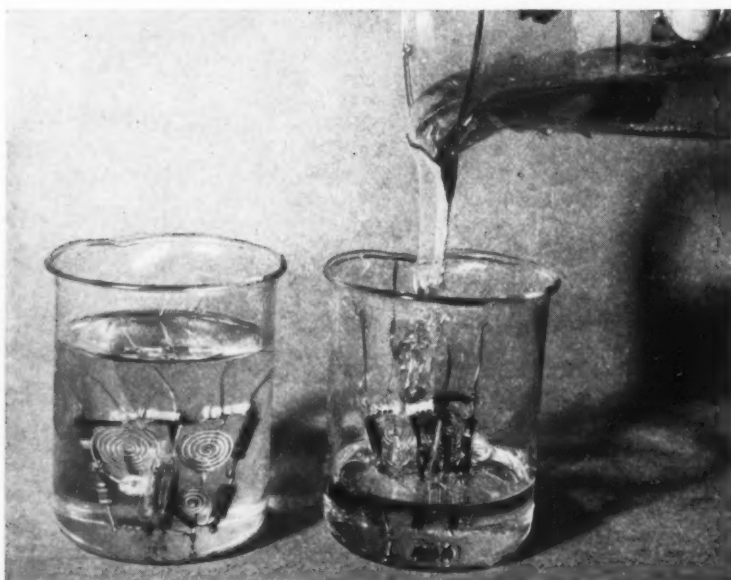
A stationary mercury cell which produces caustic soda of high purity and offers certain operating economies is now ready for licensing, it was announced recently. High-purity caustic is essential to the manufacture of rayon.

The new apparatus is said to produce 50 per cent liquor directly at the cell, a much more concentrated solution than is ordinarily obtained.

Develops Rapid Method For Water Assay of Paints

An accurate, speedy method for determining the volume of water in paints and varnishes has been announced by a government bureau. The method, said to require only small samples, is claimed to determine water content to a tenth of one percent within one hour. It may also be used for water determination in oils, fats, waxes, glues, plasticizers, paper, dry foods, and many other substances, according to government scientists.

ELECTRONIC CIRCUITS "POTTED" BY NEW RESIN



Electronic circuits or even complete plug-in sub-assemblies may be easily embedded or "potted" in a new casting resin developed recently. To "pot" an electronic circuit, it is only necessary to pour the resin into a suitable mold, and then "cure" for a few days until it has solidified.

The resin is said to provide excellent electrical insulation as well as protection against rough handling and deteriorating atmospheric conditions. It should be especially useful in high-impedance control devices in heavy industry to provide adequate protection against vibration, acid fumes, high humidity, and salt spray.

TECHNICAL DEVELOPMENTS

Further information on these items
may be obtained by writing to U.S.I.

To provide termite- and rot-protection, a new product has been marketed which is claimed to protect any wood which comes in contact with the soil. A quart of the preservative is said to cover about 200 square feet of wood surface. (No. 234)

USI

To mark glass, cellophane, metal and wood, a new pencil has been developed which is stated to dry instantly. (No. 235)

USI

A new inorganic plastic, is said to be unaffected by oil, sunlight, alkali, age, and temperature up to 900 degrees F. The makers claim it is useful in molding articles for the electrical, architectural, general industrial, and consumer goods fields. (No. 236)

USI

A new high-speed mill, designed for grinding, emulsifying, homogenizing, mixing, dispersing, disintegrating, and many other uses, is now available. Made of stainless steel, it is said to be useful in the processing of foods, corrosive chemicals, and other materials. (No. 237)

USI

To secure labels permanently, a new bottle-labeling adhesive has been developed which is claimed to be highly resistant to water and humidity. (No. 238)

USI

A new principle of color-matching panels has been developed which is said to compensate for the error caused by the fact that in most people the right eye is stronger than the left which makes panels on the right seem deeper and darker. (No. 239)

USI

A new gum from South America is announced which is designed to increase the bulk of liquid arabic gum glue. (No. 240)

USI

A new cure for motion sickness, described as a mixture of three drugs, allays the apprehension and excitement which contribute to sea and air sickness, the makers state. (No. 241)

USI

A new temperature measuring system, for measurement and control of gas temperature up to 5,000 degrees Reamur, has been announced. It is said to be accurate to ± 1 per cent to 2,500 degrees R., and ± 2 per cent from 2,500 to 5,000 degrees R. (No. 242)

USI

Unusual fatty acids form a sweet-odored, pasty, pale cream compound, suitable for creme shampoos and other products in the sanitary chemicals field. (No. 243)

USI

A waterproofing membrane, consisting of an open-mesh fabric, can be used on roofing applications and many waterproofing operations in the construction industry. (No. 244)

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK 17, N. Y.



BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS

Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined

Ethanol (Ethyl Alcohol)

Specialty Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C. P. 96% Absolute

*Super Pyro Anti-freeze
*Solax proprietary Solvent

*ANSOLS

Ansol M
Ansol PR

*Registered Trade Mark

ACETIC ESTERS

Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS

Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS

Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS

*Diethyl
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES

Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Alpha-acetylbutyrolactone
5-Chloro-2-pentanone
5-Diethylamino-2-pentanone
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Alpha-Oxalpropionate
Ethyl Sodium Oxalacetate
Methyl Cyclopropyl Ketone

ETHERS

Ethyl Ether
Ethyl Ether Absolute—A. C. S.

FEED CONCENTRATES

Riboflavin Concentrates
*Vacatone 40
*Curbay B-G *Curbay Special Liquid

ACETONE

Chemically Pure

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Congo Gums—raw, fused & esterified
*Araplaz—alkyds and allied materials
*Arafene—pure phenolics
*Arafene—modified types
Natural Resins—all standard grades

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Ethylene Glycol Urethan
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for BATH CRYSTALS



- Uniform size and brilliant sparkle in each crystal
- Readily absorbs dyes
- Takes perfume easily
- Softens water promptly and effectively
- Dissolves instantly
- Attractive package appearance
- Will not change physically or chemically in the package
- Mild and non-irritating to the skin
- Special detergent properties help soap work better
- Free-flowing—ideal for filling machines
- Low cost

Give your bath-crystals package a head start on the market with Solvay SNOWFLAKE CRYSTALS! These beautiful true crystals have a glisten and sparkle . . . a breath-taking eye appeal that creates immediate consumer acceptance.

But this eye appeal—important as it is in producing sales—is not the whole story. *Your product will maintain its leadership* when you use Solvay SNOWFLAKE CRYSTALS because of the *plus factors* that you get along with the beauty. Check the complete list of advantages that SNOWFLAKE CRYSTALS offers you . . . then picture your label on a package of these perfectly performing bath crystals.

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SOLVAY SNOWFLAKE CRYSTALS

*Trade Mark Reg. U. S. Pat. Off.

DEPARTMENT STORE INVENTORIES

A recent report from the U. S. Department of Commerce indicates that widespread renewal of summer sales by department stores point to a return of the prewar policy of not carrying over seasonal merchandise, which should cheer the cosmetic industry. The clearances are being accompanied by the building up of Fall stocks. An increase in new orders of large department stores was noted in both May and June from the low point reached in April. The increase this year was larger than that which took place a year ago. The rise in new orders brought about the first increase in total outstanding commitments of these stores since the first of the year.

DRUG INDUSTRY CREDIT GOOD

Hailing the credit position of the drug industry as "sounder than it has been in many years," Dr. E. L. Newcomb, executive vice president, National Wholesale Druggists Assn., recently cautioned against dangerous pre-war credit practices. Retail drug store sales for the first six months of 1947 increased 5 per cent over the same period last year, while wholesale drug sales showed an increase of 6 per cent. Dr. Newcomb further stated that this increased dollar volume has enabled both the wholesale and retail trade to come through the war, in the face of tremendously increased operating costs, in far better financial condition than ever before in the history of the industry.

NEW BOOK

In a most interesting and readable way, "The Water-Soluble Gums," written by C. L. Mantell, Ph.D., a consulting chemical engineer of New York City, presents a well-integrated and thoroughly documented discussion of an important group of substances which are widely used in the food, pharmaceutical, cosmetic, paint and textile industry. These substances are generally known as the water-soluble gums. They include a wide range of complex botanical products found primarily in the tropical regions of the world. Many of them are extracted from seaweeds, and numerous others are obtained as exudations from various species of trees in India and other semi-tropical localities. These gums are colloidal materials used as emulsifying and protective agents in hundreds of industrial products and processes. Their properties, chemistry, collection, prepara-

tion and application are described in detail. Special attention is devoted to their colloidal nature and to their practical applications. Sufficient references to the literature are given to provide the reader with further source material. As a whole, the book is exceptionally well written, and will be of interest to botanists and biologists, as well as to the chemical industries. Dr. Mantell is the author of several outstanding treatises in other fields. This volume ranks with the best work that he has published to date. It contains 285 pages, is illustrated, and is published by Reinhold Publishing Corp. of New York City.

STREPTOMYCIN OUTPUT UP

Streptomycin production during July increased 104 per cent over the previous month's output, according to a recent report by the Department of Commerce. The July total of 1,000,753 grams is virtually equivalent to all supplies made available during the entire year of 1946. The substantial production increase, plus the trend of foreign as well as domestic consumption and the desirability maintaining incentives to continued expansion, led the Department of Commerce to establish an export quota of 300,000 grams for August, as compared with the authorized export quota for July of 125,000 grams.

FIRST POSTWAR SHOW

Independent retail druggists in the Metropolitan New York area are participating in the first pre-war holiday show sponsored by the New York Pharmaceutical Council, in cooperation with leading drug wholesalers and manufacturers serving the area. The show, which will include both sales clinics and merchandise exhibits, will take place at the Hotel Pennsylvania on October 27, 28, 29.

COSMETIC SURVEY

From Neal Wilder of McCann-Erickson, New York advertising agency, we received a copy of their recent cosmetic survey conducted for Daggett & Ramsdell, one of their clients, which indicates that cosmetic sales are returning to their normal level, after suffering a pronounced decline during the first quarter of 1947. This decline, says the survey, was due to high inventories on retailers' shelves during that period. Sales for the first four months of 1947 were 4 per cent below those for the same period of 1946, but inventories reached a normal level around April of this year and sales should continue to increase during the rest of the year, as compared to the first three months.

YULE COSMETICS FOR ALL

An article, by Dorothy Cocks, national toiletries merchandising authority, stresses the masculine potential for Christmas business volume, in a recent issue of the N.A.R.D. Journal. "When Summer is dying," she writes, "is when successful Mid-Winter merchandising promotions are born." Noting that doughboys who sent exciting gifts of perfume from France to their sweethearts in World War I boosted the cosmetic industry into the big business class, Miss Cocks says, World War II has given the same kind of impetus to the toilet goods for business for men. "During the war years, gifts of male toilet articles to loved ones in uniform, gifts of grooming kits sent to soldiers, sailors and fliers the world over, created volume sales and established the habit of using toilet goods among millions of young men. Though it is hoped the fighting is all over, gifts are still being sent to the boys stationed overseas. Veterans back in civilian life continue to use the grooming items they first received in wartime packages. Offering hints to selling Christmas presents of toiletries to men, Miss Cocks concludes her story with sound advice for also increasing feminine cosmetics sales for the Mid-Winter holidays.

EXPANDS PRODUCTION

A new manufacturing unit greatly expanding its production of the new insecticide, benzene hexachloride, has been completed and put in operation by the Pennsylvania Salt Manufacturing Co. at its Natrona, Pa., plant.

"GOLDEN DOZEN" DISCOVERIES

A "Golden Dozen" discoveries that are further advancing medical progress in the United States are listed by several executives of the Winthrop Chemical Co. in a review appearing in *Record of Chemical Progress*, published by the Kresge-Hooker Scientific Library, Wayne University, Detroit, Mich.

ATOMIC ENERGY

First indication of the appearance and scope of the nation's newest and one of the most important atomic energy facilities was provided recently when the Atomic Energy Commission and Monsanto Chemical Co. released for publication an architect's drawing, showing how the installation at Miamisburg, Ohio, will appear early next year. Monsanto will operate the new laboratory for the AEC, and will engage in the investigation of basic chemical problems in the field of atomic energy.

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DRUG SALES SLIDE

Ray Schlotterer, executive secretary of the Federal Wholesale Druggists Assn., and editor of the F.W.D.A. "News Capsule," recently stated that retail drug sales, which have steadily continued an upward trend since the end of the war, began falling in June of this year.

TELLS STORY OF 47 YEARS

A history of Sterling Drug, Inc., from its founding in Wheeling, W. Va., in 1900 to this year has been issued by the corporation and is now being distributed to more than 12,900 employees. In the Fall, copies of the 50-page book, entitled "The Sterling Story," will be sent to all stockholders, according to James Hill, Jr., president.

DOW SETS NEW HIGH

Dow Chemical Co. consolidated sales set a new all-time high at \$130,426,838 during the fiscal year ended May 31. This was 28 per cent above the sales attained the previous year and approximately four-and-a-half per cent above the wartime peak of \$124,570,200 set during the fiscal year 1944-45. Dow recently released an illustrated brochure, depicting the Fifty Years of its progress and a presentation of its people.

"DARK BRILLIANCE"

Inspired by the success of their "Dark Brilliance" perfume, which was launched both here and abroad last Fall, Lenthic has created a new high-intensity lipstick bearing the name of this now-famous essence. It is a blue-red shade, keyed to the new Fall fashions, is an extremely wearable color and flattering to most women. A large national advertising campaign in the class magazines is planned on the item.

REXALL OPENING

A four-day ceremony, filled with the appearance by prominent business, civic and entertainment leaders, marked the grand opening of the Owl-Rexall Super (world's largest) Drug Store and the Rexall Drug Co.'s new world headquarters building in Los Angeles. It was one of the most extensive promotions of this type ever staged in Hollywood. A special "Manufacturers' Day" was observed on Sept. 16th, at which time important dignitaries, such as Charles Luckman, president of Lever Bros., and Eric Johnson, movie czar, spoke. Also speaking before the manufactur-

ers were Justin Dart, Rexall president, and G. S. Culver, vice-president in charge of merchandising. The first 10,000 women who entered the new store received as souvenirs, orchids which were flown from Hawaii. Other gifts included 10,000 boxes of American Custom Miniature Chocolates, toy balloons and memento postcards.

NEW TERM AT P.C.P.G.S.

The 1947-48 session at the Philadelphia College of Pharmacy and Science commenced on September 18th when a record enrollment was welcomed by Dr. Ivor Griffith, president of the College, and members of the Faculty. As result of a summer building program, there now is additional locker and recreational space for the men students, a new infirmary, a modern and compact cafeteria, new maintenance department quarters, and new administrative offices.

NEW JOBS COSTLY

Industry's average investment per worker has risen from about \$6,000 in 1939 to at least \$6,600 in early 1947, reports a recent study made by the research department of the National Association of Manufacturers. The study also showed that to create an entirely new job, installing machinery, etc., would cost at least an average of \$8,000 at the present time because of today's high price levels. The study emphasized that there is a wide variation in the investment per worker in different industries, such as the chemical industry, wherein it costs more than \$25,000 to supply one worker with equipment. In other industries the cost is well below the current average.

THERMAL INSULANT

Development of a scientifically unique form of matter into a space-saving insulant is increasing household refrigerator and freezer capacity up to 60 per cent without adding to outside dimensions, according to a recent announcement by Monsanto Chemical Co.

MEN'S HAIR-DO SURVEY

A recent issue of *Sales Management* contained an article, "Why Four Out of Ten Men Say 'Nix' to Hair Tonic," written by Jules Nathan, Marketing Director of the Franklin Bruck Advertising Corp., based on a survey made by the Agency. Although it is reported to be a 50 million dollar market, men simply don't care for grease, 20-mule team perfume or too much alcohol on their cranium, reports Director Nathan, among other interesting facts.

REPORT ON STERLING

The net profit of Sterling Drug, Inc. and subsidiary companies for the first six months ended June 30 was \$7,083,238, before deducting preferred dividends but after all charges and provision of \$4,782,195, for Federal and foreign income taxes. For the corresponding period of 1946, comparable net earnings were \$7,520,661. Sales for the first half of 1947 were \$66,447,482, a 10 per cent increase over same period a year ago.

SQUIBB EARNINGS

Directors of E. R. Squibb & Sons recently declared a quarterly dividend of \$1 per share on the \$4 cumulative preferred stock of the corporation, payable Nov. 1, to holders of record at the close of business on Oct. 15. Directors also declared a dividend of 25¢ per share on the common stock of the corporation, which was payable September 12, to holders of record at the close of business on August 28.

MACY'S NEW STORE

On September 2 the world's largest store opened the largest air-conditioned beauty salon on Long Island—the first beauty salon to be installed by Macy's, constructed in its newest branch store, Macy's-Jamaica. The new salon has 4000 square feet of space; 31 experienced hair stylists, and 4 expert manicurists ready to serve, by appointment only.

ECONOMY SURVEY URGED

A survey of all affected elements in the U. S. economy, including those industries vulnerable to tariff changes, is urged by The American Tariff League upon the non-partisan committee being formed by President Truman to study U. S. foreign aid potentialities and limits. In a letter to the 19 leaders representing business, agriculture, labor and other interests, who have been invited to serve on the President's committee the League declared that the American people will want to see the war-torn nations revive and prosper, and will be willing to devote some portion of their working day to the economic assistance of foreign countries. Declaring that it had many times pointed out that the U. S. could no longer balance its "out-size exports by imports of raw materials and non-competitive commodities," the League reviewed its fears that some domestic industries were likely to be sacrificed so as to permit an influx of foreign goods, merely for the purpose of balancing currently "inflated exports."

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TEGIN—Glyceryl Monostearate—Self emulsifying. For neutral greaseless creams, lotions and ointments.

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TEGIN P—Propylene Glycol Monostearate—Self emulsifying. For brushless shave creams, greaseless creams, lotions, ointments and cosmetic stockings.

TEGIN 515—Glyceryl Monostearate—Non-emulsifying.

PRESERVATIVES *Esters of Parahydroxybenzoic Acid*

TEGOSEPT E TEGOSEPT M TEGOSEPT P BENZYL TEGOSEPT BUTYL TEGOSEPT

LANOLIN ABSORPTION BASES

PROTEGIN X—For Nite Creams and Ointments.

ISO-LAN—For Creams, Lotions and Ointments.

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MONSANTO EXPANDS

A general expansion program which will increase its overall Canadian productive capacity by at least 100 per cent in two years has been announced by Monsanto (Canada) Ltd. Part of the program embodies an increase in the productive capacity for phenolic resins which are produced at Montreal together with polystyrene.

AID DUTCH CITY

Thirty cases and 144 boxes of valuable pharmaceuticals and medicines made up part of a recent relief shipment sent to the war-devastated town of Nijmegen, Holland, by Winthrop Chemical Co., Inc., and Bayer Company Division, Sterling Drug, Inc. The relief shipments which sailed aboard the S. S. Westerdam from New York to Holland, was the result of a campaign by the City of Albany for contributions to aid in the rehabilitation of ravaged Nijmegen and its people. The cargo consisted of approximately 200 tons of supplies contributed in Albany, having an estimated value of \$225,000.

EDUCATIONAL CAMPAIGN

The Plastics Division of American Cyanamid Co. has completed plans for an educational campaign to promote informed buying and selling of plastic products and components. The campaign is scheduled to break early this Fall and will be designed to foster understanding of the basic differences in the various types of plastic compounds and to build public recognition of and confidence in quality plastics properly applied and designed. Monthly insertions are planned by the Hazard Advertising Co. in an expanded list of general business papers and the retail trade press, supplemented by direct mail.

WARTIME RESEARCH REPORTS

Approximately 2500 reports of research on wartime technical problems, sponsored by the Office of Scientific Research and Development, are now available to the public, according to a Bibliography and Index recently published by the Office of Technical Services, Department of Commerce. The items listed in the Bibliography and Index comprise all of the numbered reports published by the OSRD between 1941 and 1945, which are no longer held confidential in the interests of military security. Single copies of the reports have been placed on file with OTS, which in

turn sells single copies or microfilm copies to the public at approximate cost of production. The Bibliography and Index will greatly facilitate access to the documents for businessmen, technicians and scientists. The 2500 reports listed comprise a large part of the work of OSRD during the war years to solve national defense problems in medicine, chemistry, metallurgy, engineering, aeronautics, electronics, personnel training and several other large fields. Although many of the research projects were related to specific wartime needs, much of the material finds practical application for peacetime production in private industry.

MERGE SALES STAFFS

The sales staffs of two pharmaceutical manufacturing units of Sterling Drug Inc. have been merged into a single organization, as of September 1. The two affected units are Winthrop Chemical Co., Inc., and Frederick Stearns & Co. Joseph G. Noh, vice-president and director of sales of Winthrop will be the sales director of the new organization.

ABSORB GERMAN TRADE

Pharmaceutical manufacturers in the United States are now handling at least 90 per cent of Germany's pre-war trade with the Latin-American countries, and the volume of American exports is increasing steadily, according to a recent statement made by Earl I. McClintock, vice-president of Sterling Drug, Inc.

20 PER CENT DISCOUNT EVENT

For the first time in nine years, Elizabeth Arden announced a 20 per cent savings event last month on a large selected group of her products. The sale was timed to open the Fall season, breaking from August 14 to 23 East of the Mississippi, and from August 21 to 30 West of the Mississippi.

NEW GUERLAIN SHADE

Natural Blush, a softly-muted, pink-toned face powder shade is a newsworthy addition to Guerlain's Shalimar-scented face powders. It is a lively tone, though it strongly indicates the general trend toward lighter make-up. Natural Blush, like all Guerlain's Face Powder is now made from a new French formula that gives it a far finer texture and greater stay-on quality.

PURELY PERSONAL

R. S. WOBUS and WILLIAM M. RUSSELL of Monsanto Chemical Co., have been granted leaves of ab-

sence to attend the Advanced Management Program of the Harvard Graduate School of Business Administration.

LEO SKLARZ, sales manager of the Pigment Department, Calco Chemical Division, American Cyanamid Co., announces the appointment of E. Carling, K. A. Coate, S. F. Dimlich and L. C. Green as regional sales managers.

CHARLES A. MOONEY joins Lenthic, Inc., New York, N. Y., as a director and vice president. He was formerly vice president and general manager of Elizabeth Arden.

The New York Board of Trade is reported to be readying a monthly magazine, "New York Business."

THOMAS CLARKE SHEEHAN has been named district sales manager of Metropolitan New York City for Helena Rubinstein, Inc., according to an announcement by George S. Carroll, sales manager. Mr. Sheehan formerly represented the company in the Philadelphia, Baltimore, Washington area.

ROBERT L. HUTCHINSON has been appointed general superintendent for Pittsburgh Plate Glass Co.'s Columbia Chemical Division and for the Southern Alkali Corp., while E. Wayne Haley has been named director of sales for the Southern Alkali Corp.

Major General FREDERICK L. ANDERSON has been elected to the board of directors of E. R. Squibb & Sons.

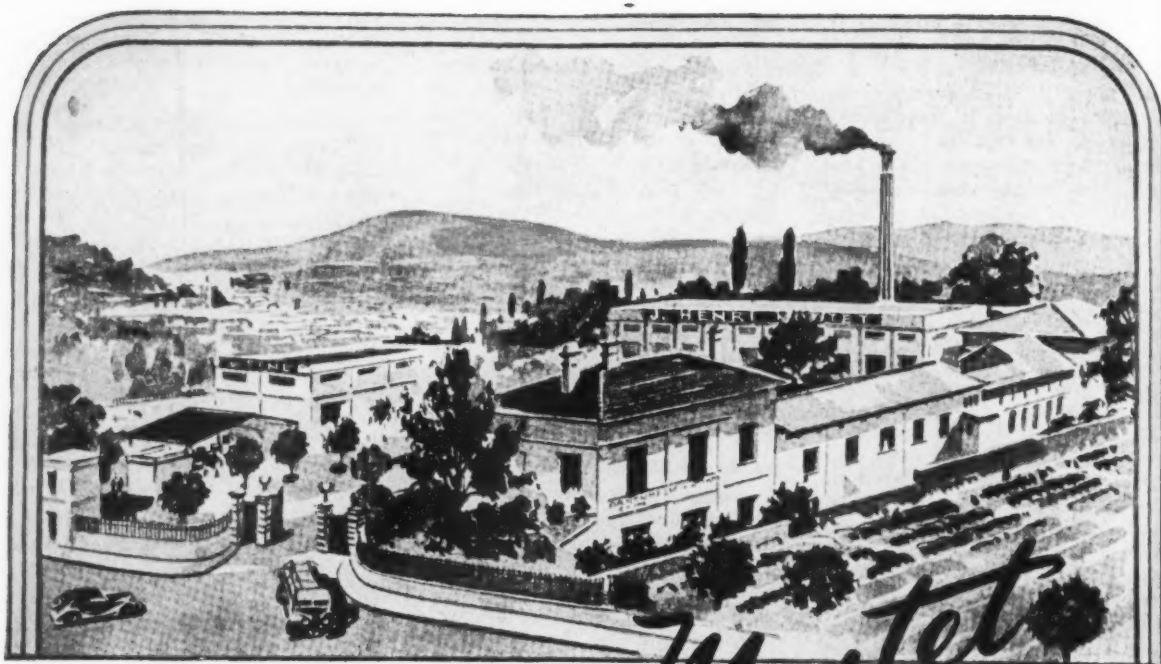
BEAVEN W. MILLS has been made art director of Robert Gair Co.

LESLIE M. W. NEVILLE has been appointed vice president in charge of sales, advertising and production by Wilt, Inc., shaving preparation manufacturer.

DR. F. R. LOWDERMILK has been appointed supervisor of the development division in the research and development department of the Pennsylvania Salt Manufacturing Co.

CHARLES C. CARUSO, vice president of Schieffelin and Co., is one of 200 New York businessmen working actively in the 42nd Annual Appeal for the Travelers Aid Society.

DONALD L. HOPCRAFT, with Dana Perfumes for some time, has been appointed sales manager, with new headquarters in the company's main Chicago offices. He formerly represented his company in the Cleveland-Detroit area.



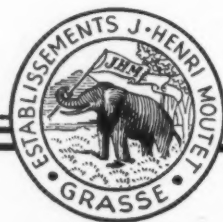
J. Henri Moutet

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THE ROUND TABLE —

Bush Aromatics Sole Representatives of Adrian & Cie of Marseilles, France

Adrian & Cie, of Marseilles, France, have announced that henceforth they will sell their products in the United States and Canada direct to manufacturers and have appointed Bush Aromatics, Inc., New York, N. Y., as their sole distributors.

Adrian & Cie are distillers and exporters of essential oils. Their modern factory is placed in the center of their own properties in the villages of Allemagne and Valensole, France, about 150 kilometers from Grasse. Here they cultivate lavender, lavandin, carrot seed, celery seed, estragon, majoram, myrtle, sage sclary, rosemary, etc., from which they distill the oils. The oils will be shipped to New York as distilled and Bush Aromatics, Inc., will make deliveries from their warehouse.

Burton T. Bush, who has just returned from France, spent some time with M. Julien Adrian visiting their plantations and distillery. He was much impressed with the large amount of acreage planted and the systematic methods employed in cultivation and harvesting. He was also impressed with both the size and modern equipment of their distillery.

Besides their large interest in France Adrian & Cie have important interests in the French colonies and Spain, where they have established their own branches for the purchase of oils indigenous to these countries.

Gerard Danco Tells How to Identify Ambergris

In an article on ambergris in the Aug. 31 issue of the New York Mirror, Gerard Danco is quoted as saying: "The only way to identify true ambergris is by its odor, and the strength of that odor determines its worth. Perfumers use it as a base, a fixative; there's no substitute for it.

"Most of our supply comes from Europe, and the importers there get

it from all over the world—the Indian Ocean, the South Atlantic and the South Pacific. In 25 years, I can never recall ambergris being found on the Eastern seaboard."

His Excellency Ahmed Hamza of Egypt Flies to the United States

His Excellency Ahmed Hamza, proprietor of the Hamza Plantations in Tahanoub, Egypt, the largest flower plantations in the Middle East, arrived in the United States by air-



His Excellency Ahmed Hamza

plane August 28 for his first visit to this country. His Excellency is recognized as one of the world's foremost authorities on the cultivation of jasmin, rose, tuberose, cassie, oranger and other flowers; and has been engaged in that work for many years. He was Minister of Supply for the Egyptian government during World War II and is now a senator in the Egyptian parliament. He expects to spend about a month in this country. During his visit he was much impressed with the city of New York and the beauty of the suburbs and especially with the hospitality and activity of the American people.

Vanilla Beans Growing Wild in Oahu and Hawaii Islands

Vanilla plants are growing wild in abundance on the islands of Oahu and Hawaii according to Dr. Alexander Katz, president of the company which bears his name, who recently returned with his son, Allan, from a trip to the Hawaiian Islands.

Large quantities of the beans were found on the estate of Lam Quon. Dr. Katz cured the beans rapidly by artificial drying also using infra red rays for the purpose. Samples of the cured vanilla brought back showed approximately 8 per cent of moisture and on extraction, Dr. Katz reports, a vanilla extract was obtained equal in taste and aroma to the best beans imported from Mexico or Madagascar. Dr. Katz immediately took steps to determine the possibility of obtaining quantities of vanilla and the possibilities of its production in the future. The Honolulu Star-Bulletin which featured Dr. Katz's discovery in a special article pointed out that vanilla bean production is a potential Hawaiian industry because of its soil and climate.

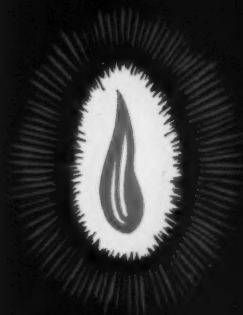
Dr. Alexander Katz & Co., incidentally, will exhibit materials it produces at the Pacific Chemical Exposition in the San Francisco Civic Auditorium October 21 to 25.

Harris Whitaker Manages House of Gourielli

Harris Whitaker has been appointed general manager of the House of Gourielli Inc., New York, N. Y. Sara Fox, Inc., has been made public relations counsel for the firm.

Bjorksten Has Leased Additional Laboratory Space

The Bjorksten Research Laboratories has leased from the Edwal Laboratories, Inc., laboratory space at 732 South Federal St., Chicago.



A LOT OF MIDNIGHT OIL . . . WAS BURNED AT EMULSOL

Simplifying manufacturing processes and improving products doesn't come easily . . . not even to the vast facilities of The Emulsol Corporation's research laboratories. But we burned the midnight oil again and again . . . and *found* the answers. You'll find some of them embodied in such outstanding products as:

- Emcol RDC-D — (A modified Diglycol Laurate-S) A most versatile industrial emulsifying agent, described in Technical Bulletin 12.
- Emcol "H" Series — Non ionic emulsifiers for petroleum and aromatic hydrocarbons, and other solvents, described in Technical Bulletin 8.

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Pierre Coutin Reports on Price Trends of Grasse Floral Products

Pierre J. Coutin, vice president and sales manager of Roure Dupont, New York, N. Y., returned August 25 on the Queen Elizabeth from a four weeks' trip to France. Most of his time was spent in conference with executives of Roure-Bertrand Fils & Justin Dupont, for whom Roure Dupont, Inc., is sole American agent. Mr. Coutin reported that railway transportation is now normal again. A shortage of fuel is the primary problem of France hampering industrial production of all sorts. In fact the fuel supply is much below requirements. As to food the situation is particularly serious for minor employees who must spend three-quarters of their income to get an adequate supply for their families. Supplies of raw materials are now being received in normal quantities from the Colonies. In Grasse as compared with pre-war the produc-



Pierre J. Coutin

tion of floral products is adequate for the present needs of the market. Jasmine and lavender in particular are adequate; and prices accordingly have gone down; and it is believed that they have almost reached their limit and no further declines are expected. Tuberose, rose and some other oils are steady and are likely to remain so. Orange flower products have declined substantially since the last crop was harvested but no further recession is likely.

Ungerer & Co. Strengthens Position in Flavor Field

Ungerer & Co., New York, N. Y., has announced the purchase of the business and all assets of John N. Hickok & Son, Co., 26 Front St., Brooklyn, N. Y., manufacturers of flavors since 1883.

This acquisition will greatly expand Ungerer & Co.'s present flavor facilities. D. Honan, who has been a partner with the Hickok company for many years, will remain in charge of manufacturing, as will other personnel. In the future, all manufacturing of flavors will be done at Ungerer & Co.'s new plant, located in Totowa, N. J.

Percy Magnus Heads Division of PAL Campaign

Percy C. Magnus, president of Magnus, Mabee & Reynard, New York, N. Y., has been appointed head of the Drug & Chemical Industry Committee of the Police Athletic League Campaign. Assisting him in his efforts are Harold M. Altshul, Jean Despres, R. J. Prenziss, George Uhe, J. J. Toohy, Raymond Schlotterer, George Schneider and William Auchincloss.



Percy C. Magnus

Heyden Chemical to Raise Additional Funds

The Heyden Chemical Corp., New York, N. Y., plans calling a special meeting of stockholders to authorize 60,000 shares of a new Second Preferred Stock, to raise \$6,000,000 to \$10,000,000. The money would be used as additional working capital to finance the increased volume of postwar business.

OIL ORRIS ROOT LIQUID ABSOLUTE

ORRIS CONCRETE

ORRIS OLEORESIN (Resinoid)

Experience demonstrates that none of the substitutes for Orris are wholly satisfactory in giving the characteristic Orris note. It is therefore fortunate that these well known Bush specialties are now readily available.

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AMYL BUTYRATE AND ETHYL BUTYRATE

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THE NORTHWESTERN CHEMICAL CO.

INCORPORATED 1882



WAUWATOSA, WISCONSIN

van Ameringen to Conduct Course on Perfumes

The College of Pharmacy, Columbia University, will hold a seminar on the "Evaluation and Appreciation of Perfume" this Fall. It will consist of six two-hour weekly meetings starting Wednesday evening, Oct. 8. The seminar will be conducted by A. L. van Ameringen, and is planned for those concerned with the manufacturing, sales, merchandising, advertising and publicity of perfume and perfumed toilet preparations, as well as for department and drug store buyers.



A. L. van Ameringen

Small Containers Will Stimulate Perfume Sales Now, Says Grunberg

Perfume sales are readily increased if the perfume is packed in dainty small sized containers according to George Grunberg, president of Glass Industries, New York, N. Y., who submits many letters from perfumers

all over the world to prove that sales of perfume have mounted substantially after small sized attractive containers are added to the line.

Such packages, he points out, make it unnecessary for a woman to pay around \$40 for her favorite perfume since she may obtain a small container filled with it for \$3 to \$4. Packages at such prices sell more readily at the present time particularly and for that reason may be advantageously employed to stimulate sales of perfume. That this is done is proved, he emphasizes, by tests conducted by various perfumers who found to their satisfaction that sales of perfume packaged in small one and two dram containers increased enormously over sales of the same perfume packed in one ounce or larger bottles.

The mere fact that thousands of small one and two dram containers are displayed and sold empty in stores all over the country is in itself evidence, he points out, that it is the container that makes the initial sales appeal. Consequently with such containers a means is provided for making sales easier whether the perfume is sold in bulk or it is sold in sealed bottles.

Harlan Hobbs Appointed Sales Promotion Manager by Kimble

Harlan Hobbs, former manager of the Owens-Illinois Film Division, has been appointed sales promotion manager of the Kimble Glass Division of Owens-Illinois Glass Co. His office will be in Toledo, Ohio. The new sales promotion division will include, in addition to the former Kimble advertising department, units for market research, merchandising, publicity and public relations.



Harlan Hobbs

Leonard B. Schwarcz Now Sole Owner of Ampion Corp.

Leonard B. Schwarcz, president of the Ampion Corp., Long Island City, N. Y., has acquired complete stock control of the company. B. Benedick, vice president, has resigned. The company recently purchased the machinery, laboratory equipment and stock of vegetable oils of the Eagle Soap Co., of Brooklyn.

All Signs point to

Let us show you the sure way to cost economies by using Powco Brand Powdered Neutral Soap in your dentifrices or cosmetics. Send today for your sample stating the use for which it is intended.

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Neutral Esters of
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Preservatives. For products containing gums, mucilages, glue, carbohydrates, fats and oils, and other products subject to deterioration through mold growth, fungus formation, or yeast and bacterial action.

Under certain conditions Parasepts can be used to provide antiseptic properties in lotions, creams, and powders.

Write to us for information on the application of Parasepts to your field of manufacture.



PARASEPTS AVAILABLE:

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(Propylparaben U.S.P. XIII)

Ethyl Parasept
Butyl Parasept
Benzyl Parasept

SUPPLIED: 5-lb. cartons; 25-lb. and 100-lb. fiber drums.

HEYDEN CHEMICAL CORPORATION
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Bush Aromatics Sole Distributors for Laboratoire Noel of Grasse, France

With the announcement of Laboratoire Noel, Grasse, France, of the appointment of Bush Aromatics, Inc., New York, N. Y., as sole American representatives, the products of Dr. A. Rojdestwensky are made available to American and Canadian perfumers.

Dr. Rojdestwensky was a former professor of chemistry and physics at the University of Kazan, Russia, before the first Russian revolution. Following that he spent many months in Java doing research work for the Dutch government on natural aromatic products. Upon his subsequent arrival in France he became associated with leaders in the essential oil industry in Grasse doing research work on the possibilities of decolorizing all natural resinous products which led to an intensive study of their uses in connection with aromatic chemicals in perfumery. His background of science plus the possession of an artistic temperament has earned for him an excellent reputation as a creator of perfume bases.

Burton T. Bush, who is well known throughout the industry for his many years of service both as a builder of

an aromatic chemical factory and as an importer, has had broad experience amplified by his thirty-three trips to France. He is president of Bush Aromatics, Inc., which enjoys an enviable reputation throughout this country.

William Kilby Becomes Welch Export Manager

William A. Kilby has tendered his resignation as export manager of the Products Division of the California



William A. Kilby

Fruit Growers Exchange to accept the post of export manager for the Welch Grape Juice Co. Milton L. Chapman, Products Division general manager, in announcing the resignation, which becomes effective September 1, expressed deep regret at the loss of Mr. Kilby.

Stanley Schuster Joins Fritzsche Quarter Century Club

Stanley B. Schuster, office manager of Fritzsche Brothers' Chicago



Ralph P. Lewis, new president of Harriet Hubbard Ayer, Inc., New York, N. Y., poses on his first day on the job with Mrs. Lillian S. Dodge, and her daughter, Mrs. Henry S. Thomas, former vice-president of the firm.

office, was the guest of honor at a luncheon held at the Palmer House, Aug. 21, in celebration of his 25th anniversary with the company.

Avon Allied Products Opens Chicago Office

Avon Allied Products Corp., New York, N. Y., has opened a general sales office in the Merchandise Mart, Chicago, Ill. Melvin Davis is manager of the Chicago branch.

PLYMOUTH CRYSTAL "E" WHITE OIL

This oil has been the standard for many of America's very oldest cream manufacturers since their origin. It is water-white and crystal-pure . . . odorless and tasteless . . . of U. S. P. Acid Test and free of fluorescence . . . especially refined for the cosmetic industry and as pure as a mineral oil can be made. Because of its extra lightness you should specify it for the soft, light, fluffy creams demanded today.

Other mineral oils of heavier body if desired.

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All Petrolatums are refined and straight filtered from Pennsylvania Crude. None are acid treated and all are long fiber and of U. S. P. grades.

Both soft, low melting point consistencies and pharmaceutical grades . . . as well as the regular grades for the drug and cosmetic industry. All grades are offered from Snow White to Amber.

KOMMON/ SCENTS!

Can't help speculating on the significance of Unification. Under the new setup the Air Forces will no longer have 18-year-old colonels. They'll now be Admirals.

And the economies to be effected under the new scheme are tremendous. Enlisted men of both branches will be able to dam' all officers with a single breath.

With neither the Army nor Navy to have sole authority under Unification, the reality of administration puzzles us a little. Instead of West Point or Annapolis will future Secretaries of National Defense, dedicated to impartiality, have to be graduates of the Central Needle Trades School?

Not to be cynical, it's just a little tough for an ex-G.I. to picture no rivalry in the military. We've never yet met a soldier who didn't feel superior to a sailor or a marine who didn't look down his broken nose at both of them.

It's ironic, of course, that the nations of the world are unifying their own armed forces instead of everybody's. That's something like installing a nice big horn in your automobile instead of good brakes.

It's expected that Unification will improve efficiency of our fighting forces by minimizing duplication and overlapping functions. In the future, when the Army awards a contract, they won't be competing with the Navy. They'll only have to outbid our Allies.

Democrats and Republicans might take notice profitably. Too many Americans who held the torch for both at election time have been left holding the bag ever since.

Unification, unfortunately, couldn't work in the Cosmetic Industry. Some enterprising retailer would be sure to order perfumes and insect repellents from the same house.

Besides, how would Unification be possible in an industry in which no two manufacturers talk to one another? Except to complain about business!

George Fiedler



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STABLE IN SOLUTION

Recommended for clarifying liquid soaps and shampoos

This new organic sequestering agent:

1. Enhances foaming in soft water.
2. Prevents lime soap precipitation in hard water.
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PENETRANTS • FOAMERS • DIS-
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METAL FINISHES • SPECIALTIES

George H. Zirkel, Perfumer, Elected Vice President of P. R. Dreyer, Inc.

George H. Zirkel, who has been associated with the essential oil industry for thirty years, has been elected vice president of P. R. Dreyer, Inc., with whom he has been associated as perfumer for 14 years. Mr. Zirkel began his business career with Rockhill & Vietor in 1917. When that firm liquidated in 1922 he joined the C. E. Ising Corp. with which he was connected until 1933 when he joined P. R. Dreyer, Inc. Mr. Zirkel lives in Bellaire, N. J. As an old non-professional baseball player he has never lost his interest in the national game.

BIMS of New York Wind Up Golf Matches at Plandome

The final golf tournament of the BIMS of New York took place September 9 on the links of the Plandome Country Club, on the north shore of Long Island, where the fore-runners of the BIMS met for informal golf several years before the popular organization was formed about eleven years ago. It was probably the last meeting at Plandome; for the property has been sold and its future as a golf course is uncertain.



F. F. Menninghaus and Frank Mayer were honored by Fritzsche Brothers, Inc., New York, N. Y., when they were given a dinner on July 23. The celebration was occasioned by their joining the Fritzsche Quarter Century Club. Both are employed at the company's Clifton plant.

Conditions were ideal for play and some excellent scores were turned in. Following an hour of informal good fellowship dinner was served with singing at its conclusion led by Sewell H. Corkran. Prizes, presented by Martin F. Schultes, chairman, were awarded to the following: Grand Prize, Louis Bezard, Parfums Schiaparelli; Low Gross, Paul Miller, Golden Fleece Corp.; Low Net, Wallace Nuckols, Swindell Brothers, Inc.; Second Low Gross, Ralph Stevenson, Givaudan-Delawanna, Inc.; Second

Low Net, Walter Jamieson, Wallace Paper Box Co.; Low Net for Guests, J. R. Sims, Kimble Glass Co.

Other prize winners were: R. R. Powell, Plexo Preparations, Inc.; Everett Proops, Proops Management, Inc.; Frank Fanning; George Uhe, George Uhe Co.; W. Kyle Sheffield, New England Collapsible Tube Co.; S. L. Mayham, Toilet Goods Association; William Zimmerman, W. F. Zimmerman, Inc.; Fred Webster, van Ameringen-Haebler, Inc., and John Carpenter, Stanley Sapery Co.



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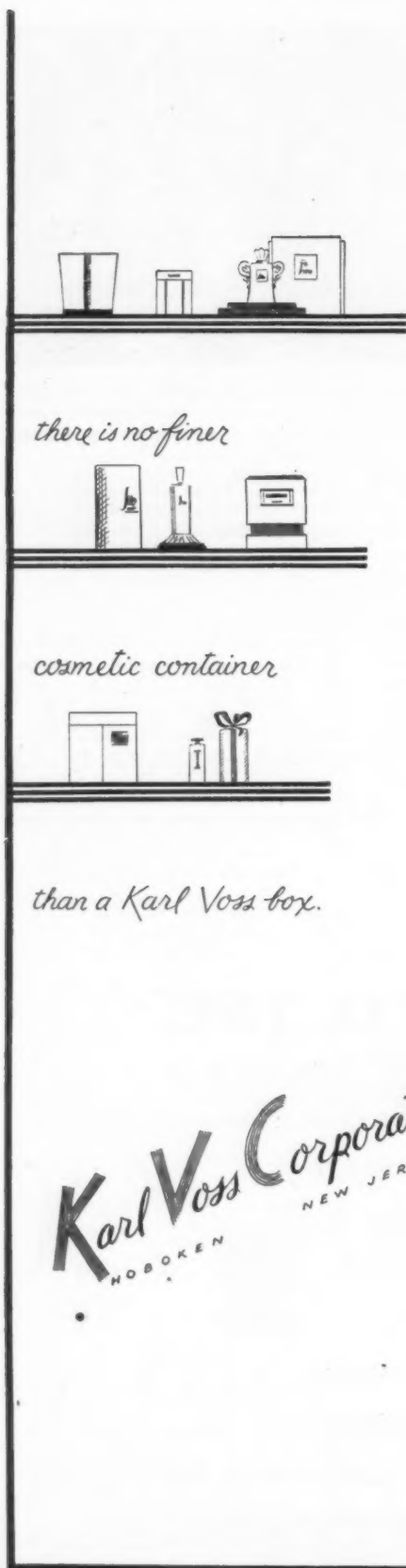
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HILARY SAYS:

What about that

TUBERIC ALCOHOL . . . \$16.00 a pound

DID you get some? I wouldn't know. I just got home.

WEST is West, and East is East;—it's good to be back,—to say the least! Paris is fine; Grasse is fragrant,—but Third Avenue has that "there's-no-place-like-home" influence because that's where most of my hats hang,—and my dog, MR. BROWN, doesn't like me to hang out with French Poodles too long!

DURING my stay in Grasse (between Cannes and Nice on The Riviera) I toured considerably throughout the countryside, visiting many factories, plants and laboratories,—with that old newspaper reporter's question (which I get myself from my customers): "What's new?" A Frenchman, in the Perfume Business, always has something to talk about—whether it's new or not—however, I did pack a few ideas, points and pointers in my luggage which I didn't have when I left. (I'm not a wise guy; I don't know it all!)

I also brought back a good supply of

**JASMIN ABSOLUTE
AND
ROSE ABSOLUTE**

(I can let you have some)

JASMIN production is about 30% of normal. According to authoritative surveys, it may be another four years before the supply can really meet the demand,—provided, of course, the next four years are good productive seasons. That means cooperation of the Weather Man,—as if you didn't know.

WHETHER or not,—JASMIN and ROSE ABSOLUTE are as near to you, right now, as your telephone: MU 3-6535.

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In Havana Lainz y Cia Aguilar 615

H. A. Wiedman Joins Polak & Schwarz

H. A. Wiedman has been made purchasing agent of Polak & Schwarz, Inc., New York, N. Y. Mr. Wiedman has been identified with the essential oil, aromatic and associated trades for the past thirty years.

R. T. Vanderbilt to Operate Huge Talc Mill

The R. T. Vanderbilt Co., Inc., New York, N. Y., has awarded a contract for the construction of a large talc mill near Fowler, N. Y. The mill will be capable of producing 250 tons of talc daily.

McCann-Erickson Issues Report on Prospects for the Cosmetic Industry

McCann-Erickson, Inc., New York, N. Y., has issued a report on the prospects for the cosmetic industry indicating that for every ten billion dollar increase or decrease of disposable income, cosmetic sales increase or decrease, on the average, by 24 million dollars.

In addition to the income-relationship, there is a time trend showing

that cosmetic sales increase about 3.3 million dollars per year.

In January 1947, inventories were 32 per cent above those of January 1945. During the first four months of 1947 there was a very rapid decline in inventories.

The dollar volume of cosmetic sales for 1947 and 1948 is estimated to run approximately 10 per cent below the 1946 level. Although this amount is somewhat below the peak volumes of 1945 and 1946, it is still higher than in any previous year. Furthermore, since inventories reached a normal level around April 1947, manufacturers sales to the trade should now be expected to regain their normal level.

Wayne Univ. Announces Packaging and Materials Handling Institute

Development of a one-week Institute on Packaging and Material Handling Techniques to be held Sept. 29 through Oct. 3, at the Rackham Memorial Building, Detroit, Mich., has been announced by the Wayne University School of Business Administration. It will be given to fill the demands of the industry for a concentrated educational program at the executive level in this field.

William H. Wallace Becomes Vice- President of Givaudan-Canada, Ltd.

William H. Wallace, well known in Canadian drug and cosmetic circles, has recently been appointed vice president of Givaudan - Canada, Ltd. The products of this company and its associates, Givaudan - Delawanna, Inc., Delawanna, N. J., and L. Givaudan & Cie., Geneva, Switzerland, are distributed in Canada by Stuart Brothers Co., Ltd., Montreal, of which Mr. Wallace is president.



William H. Wallace

Dr. Conrad J. Sunde Heads New Malmstrom Laboratory

Coincident with the completion of its new research laboratory, N. I. Malmstrom & Co., has announced the appointment of Dr. Conrad J. Sunde as director of research. Dr. Sunde was formerly a consultant with the Conservation Division of the War Production Board.

Have you looked at your alcohol costs recently?

PETROHOL, a high-quality isopropyl alcohol . . . noted for purity and uniformity . . . has an unusually wide range of uses. If you haven't already evaluated it, you may be overlooking a good bet. Only limited quantities are available at the moment, but this will change when supply and demand get closer together.

Ask about PETROHOL for general solvent and diluent purposes, perfumes, creams, lotions, toilet waters, skin fresheners, astringents, etc. Your request will start a sample and further information on their way by return mail.

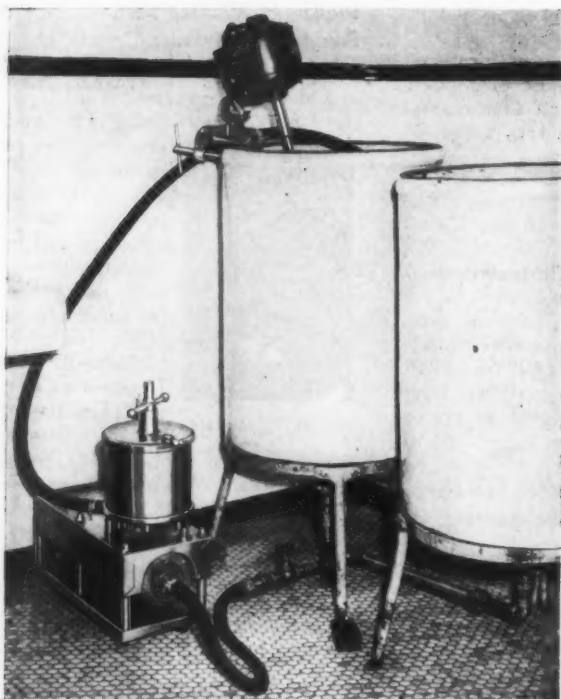
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"Sealed-Disc" Filters are available with or without pumps in Stainless Steel, Monel Metal, Nickel Plated Brass and Bronze, etc., and in capacities from 1 g.p.m. to thousands of g.p.h.

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Side-Entering Agitators are available in sizes up to 50 h.p. for thorough mixing in large tank applications.

Whether you filter in variety or volume—whether your problem is mixing, blending, suspending or dissolving, you'll want the many features found in Alsop "Sealed-Disc" Filters and "Hy-Speed" Mixers.

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BITTER ORANGE OIL—H.P.N.F.
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MARKET REPORT

Industrial Alcohol Prices Reduced

HIGHLIGHTS in the raw materials market over the past month included reductions in prices for all formulae industrial alcohol, tax paid pure ethyl alcohol, and a more competitive situation in heliotropine. The reduction in alcohol amounting to approximately 10 per cent left selling schedules of major producers still far above what could be regarded as a normal level. All grades of ethyl acetate were also reduced.

REDUCED PRICES OF ALCOHOL

The reduction in alcohol prices was predicated on the fact that production is now based on blackstrap molasses obtained at prices lower than the blackstrap molasses price prevailing when the now defunct prices were established on both varieties of alcohol. Cost of grain remains high but the availability of additional molasses will allow greater production from the cheaper raw material.

While a more competitive situation looms in heliotropine, basic material for perfumes and toiletries, in view of more favorably priced safrol, a general tone of optimism exists throughout the aromatic chemical market. Quotations on aromatics are far below the top prices existing a year ago at this time, but many items are still selling at above normal levels.

More favorably priced lots of *ocotea cymbarum* high in safrol content and prospects of increasing quantities of safrol which will soon be offered American dealers through the United States Commercial Company from Japan will, it is believed, develop into a more competitive situation in heliotropine. Fifty drums of safrol recently arrived from Japan and will be put up for competitive bidding. A previous lot which arrived here late in June went to the successful bidder at 75 cents per pound.

Stocks of aromatics in consumers' hands are believed to be getting at a very low level, and with many articles available at prices well below the abnormally high levels in force a year ago, it is generally believed that the time is rapidly approaching when many users will shortly begin to make replacements. The past month brought about a further reduction in such items as citral, citronellal, anethol, eugenol and iso eugenol.

Under the influence of a reasonably good inquiry, especially for material to be delivered in the latter part of September, acetophenone displayed considerable firmness. Benzaldehyde and anisic aldehyde were featured by a strong tone with prices in both instances registering slight gains over those in force during the preceding period under review. An American Embassy report from New Delhi, India, stated that hunters had brought samples of Tibetan musk to Nepal for export. The prices named for this material were \$15.08 an ounce in original pouches and

\$30.15 an ounce for musk grain. In keeping with other Tibetan commodities, prices of musk normally rise during the period July to January.

What seemed to be a severe break in oil spearmint proved nothing more than a belated readjustment of selling schedules from the ridiculously high nominal figures that prevailed during the months of June and July. Few dealers were willing to handle the article at the nominal prices of \$13.50 to \$14.00 per pound, and at the close last month only very limited amounts were offered here at the readjusted schedules of \$8.50 to \$9.00 per pound. Distillation of new crop oil was well under way in the country.

Oil peppermint displayed an easier tone by reason of increasing arrivals of new crop oil but reports from some houses were not particularly favorable regarding the yield and prices may not decline as sharply as reported earlier.

The supply picture in both lemongrass and citronella oils was improved by arrivals from Puerto Barries, Guatemala. Twenty-five drums of citronella arrived from Puerto Barries, and almost an equal amount of lemongrass was received from the same source. A steady to firm tone prevailed in oil camphor. Demand was reported routine in character. Exports of camphor oil from Hong Kong during the period January-April, 1947, amounted to 3,600 pounds.

Among the citrus oils, prices of lime have been gradually moving in favor of consumers. The downward trend, caused largely by low prices out of Mexico, is believed to be checked since advices from the primary market continue to point out that distillation will be materially curtailed if the low prices persist.

DEMAND FOR REFINED GLYCERIN

Demand for refined glycerin showed a decided improvement over the past few weeks. The improvement in buying was for the account of the larger consumers, namely protective coatings manufacturers, and toward the close of the month major producers reported an increasing number of requests for September deliveries. Prices of crude glycerin displayed a hardening tendency at times, but, because of buyer resistance, the upward trend failed to become general.

Menthol prices fell back to around \$8.00 per pound and there was a general feeling of uncertainty regarding the outlook. Trade factors feared that a further sizable quantity of around 50 tons would arrive from Brazil which in turn would increase stocks here to nearly 100 tons, which would be sufficient to take care of approximately half a year's consumption in the United States. There also loomed the possibility of increasing supplies from both China and Japan.

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PRODUCTION IN TONNAGE . . .
PURITY BY THE OUNCE

THE ELABORATE PRODUCTION AND LABORATORY CONTROLS WE HAVE SET UP AFTER YEARS OF PAINSTAKING EFFORT ARE REFLECTED IN A THIOGLYCOLATE OF UNSURPASSED QUALITY. THESE SAFEGUARDS GUARANTEE YOUR FINISHED SOLUTIONS TO BE WATER WHITE, CRYSTAL CLEAR AND FREE OF DAMAGING IMPURITIES AT ALL TIMES.

OUR NEW NON-IONIC EMULSIFIER "STANTOL" IS RECOMMENDED AS A CREAMING AGENT. IT IS THE MOST EFFECTIVE AND STABLE EMULSION FOR AMMONIUM THIOGLYCOLATE NOW AVAILABLE, AND IMPARTS A SNOW WHITE, CREAMY APPEARANCE TO COLD WAVE SOLUTIONS.

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100% Pure Beeswax—remains just that.
It's all beeswax—of a superior quality that
enables you to use less to achieve a finer
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even-textured whiteness. You may buy Beehive
Brand with confidence that nothing new
has been added!

- Only the choicest of the world's crude beeswax goes into it.
- Chemically tested for purity and quality.
- Sun-bleached to a smooth, even-textured whiteness.

BEEHIVE BRAND
Beeswax

And because of its superior quality you can use less and still get a finer finished product. Guaranteed pure . . . guaranteed always the same.

WILL & BAUMER CANDLE CO., INC.
Established 1855
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Ceresine Red Oil Yellow Beeswax Spermaceti
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PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

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|-----------------------------|---------|--------|--------------------------|---------|--------|
| Almond Bit, per lb. | 4.75@ | 4.90 | Java type | 1.80@ | 3.00 |
| FPA | 4.50@ | 5.25 | Cloves, Zanzibar | 1.40@ | 1.60 |
| Sweet True | .75@ | .90 | Coriander | 19.00@ | 22.00 |
| Apricot Kernel | .65@ | .85 | Imitation | 7.30@ | 8.85 |
| Amber, rectified | 1.35@ | 1.50 | Croton | 4.75@ | 5.00 |
| Angelica Root | 125.00@ | 180.00 | Cumin | 6.35@ | 6.85 |
| Anise, U. S. P. | .75@ | 1.00 | Dillseed | 6.50@ | 7.00 |
| Aspic (spike) Span. | 1.75@ | 2.00 | Erigeron | 2.30 | Nom'l |
| Avocado | 1.10@ | 1.40 | Eucalyptus | 1.05@ | 1.45 |
| Bay | 1.20@ | 2.00 | Fennell, Sweet | 3.50@ | 4.20 |
| Bergamot | 5.00@ | 5.75 | Geranium, Rose, Algerian | 15.50@ | 20.00 |
| Artificial | 3.65@ | 4.10 | Bourbon | 12.00@ | 14.50 |
| Birch, sweet | 2.75@ | 5.00 | Turkish | 6.75@ | 9.00 |
| Birchtar, crude | 1.25@ | 1.50 | Ginger | 8.50@ | 10.00 |
| Birchtar, rectified | 4.00@ | 4.10 | Guaiac (Wood) | 2.40@ | 2.60 |
| Bois de Rose | 4.00@ | 4.35 | Hemlock | 2.50@ | 3.00 |
| Cade, U. S. P. | .70@ | .90 | Substitute | .55@ | .60 |
| Cajeput | 2.70@ | 3.00 | Juniper Berry | 6.00@ | 7.20 |
| Calamus | 20.00@ | 25.00 | Laurel leaf | 20.00@ | 21.00 |
| Camphor "white" dom. | .45@ | .50 | Lavandin | 2.35@ | 3.50 |
| Cananga, native | 7.00@ | 7.50 | Lavender, French | 8.50@ | 10.25 |
| Rectified | 10.00@ | 11.25 | Lemon, Calif. | 3.35@ | 3.50 |
| Caraway | 5.65@ | 6.10 | Italian | 4.00@ | 4.85 |
| Cardamon | 25.50@ | 26.00 | Lemongrass | 1.60@ | 2.00 |
| Cassia, rectified, U. S. P. | 3.00@ | 3.75 | Limes, distilled | 5.00@ | 5.50 |
| Imitation | 2.10@ | 2.70 | Expressed | 10.25@ | 12.00 |
| Cedar leaf | 1.10@ | 1.25 | Linaloe | 3.75@ | 4.00 |
| U. S. P. | 2.50@ | 2.85 | Lovage | 95.00 | Nom'l |
| Cedar wood | .80@ | 1.10 | Marjoram | 5.50@ | 6.10 |
| Celery | 16.50@ | 19.00 | Neroli, Bigarde P. | 350.00@ | 390.00 |
| Chamomile Roman | 250.00@ | | Petale, extra | 265.00@ | 300.00 |
| Cinnamon bark oil | 35.00@ | 42.00 | Nutmeg | 5.75@ | 6.30 |
| Citronella, Ceylon | 1.20@ | 1.40 | Olibanum | 10.00@ | 11.25 |
| | | | Opopanax | 30.00@ | 37.50 |
| | | | Orange, bitter | 3.35@ | 3.75 |
| | | | Brazilian | 1.65@ | 2.00 |
| | | | Calif., exp. | 1.80@ | 2.00 |
| | | | Orris Root, abs. (oz.) | 135.00@ | |
| | | | Artificial | 36.00 | Nom'l |
| | | | Pennyroyal, Amer | 3.85@ | 3.95 |
| | | | European | 4.00@ | 4.85 |
| | | | Peppermint, natural | 8.00@ | 8.50 |
| | | | Redistilled | 8.60@ | 9.25 |
| | | | Petitgrain | 3.40@ | 3.75 |
| | | | Pimenta Berry | 4.35@ | 5.25 |
| | | | Pinus Sylvestris | 2.85@ | 4.00 |
| | | | Pumillonis | 4.25@ | 4.75 |
| | | | Rose, Bulgaria (oz.) | 40.00@ | 48.00 |
| | | | Synthetic, lb. | 30.00@ | 35.00 |
| | | | Rosemary, Spanish | 1.25@ | 1.60 |
| | | | Sage, Spanish | 2.40@ | 3.50 |
| | | | Sage, Dalmation | 4.75@ | 5.00 |
| | | | Sandalwood, N. F. | 15.00@ | 17.00 |
| | | | Sassafras, artificial | .75@ | 1.00 |
| | | | Ocotea Cymbarum | .78@ | .85 |
| | | | Snake root | 20.00@ | 25.00 |
| | | | Spearmint | 8.50@ | 13.00 |
| | | | Thyme, red | 2.85@ | 3.00 |
| | | | White | 3.00@ | 3.25 |
| | | | Valarian | 32.00@ | 35.00 |
| | | | Vetivart, Haitian | 28.50@ | 32.00 |
| | | | Bourbon | 30.00@ | 35.00 |
| | | | Wintergreen | 4.25@ | 17.25 |
| | | | Wormseed | 4.80@ | 5.50 |
| | | | Ylang Ylang, Manila | 40.00 | Nom'l |
| | | | Bourbon | 12.50@ | 20.00 |

(Continued on page 301)

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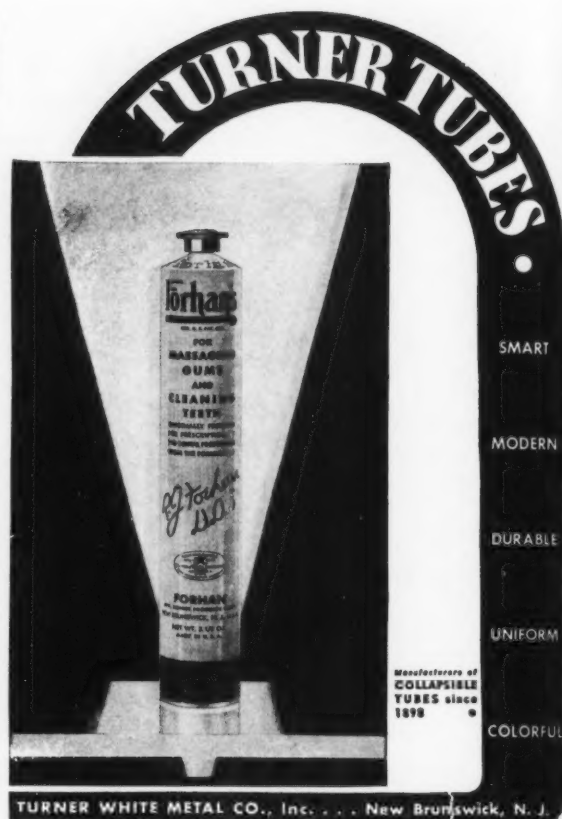
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(Continued from page 299)

TERPENELESS OILS

| | | |
|--------------|---------|--------|
| Bergamot | 13.00@ | 16.00 |
| Grapefruit | 65.00 | Nom'l |
| Lavender | 19.00@ | 22.00 |
| Lemon | 35.00@ | 40.00 |
| Lime, ex. | 85.00@ | 100.00 |
| Distilled | 45.00@ | 48.00 |
| Orange sweet | 110.00@ | 135.00 |
| Peppermint | 14.50@ | 16.00 |
| Petitgrain | 7.25@ | 8.00 |
| Spearmint | 17.25@ | 20.00 |

DERIVATIVES AND CHEMICALS

| | | |
|-----------------------------|--------|-------|
| Acetaldehyde 50% | 1.90@ | 2.75 |
| Acetophenone | 1.65@ | 1.80 |
| Alcohol C 8 | 4.25@ | 4.75 |
| C 9 | 14.00@ | |
| C 10 | 4.25@ | 4.50 |
| C 11 | 14.50@ | |
| C 12 | 4.25@ | 4.50 |
| Aldehyde C 8 | 11.00@ | 12.00 |
| C 9 | 19.00@ | 20.00 |
| C 10 | 7.00@ | 8.50 |
| C 11 | 22.00@ | 24.00 |
| C 12 | 15.50@ | 17.00 |
| C 14 (Peach so-called) | 8.75@ | 9.50 |
| C 16 (Strawberry so-called) | 7.65@ | 8.25 |
| Amyl Acetate | .55@ | .75 |
| Amyl Butyrate | .95@ | 1.10 |
| Amyl Cinnamate | 4.50@ | 5.80 |
| Amyl Cinnamate Aldehyde | 2.85@ | 3.25 |
| Amyl Formate | 1.00@ | 1.25 |
| Amyl Phenyl Acetate | 4.10@ | 4.85 |
| Amyl Salicylate | .81@ | .87 |
| Amyl Valerinate | 2.00@ | 2.25 |
| Anethol | .65@ | .75 |
| Anisic Aldehyde | 2.60@ | 3.25 |
| Benzophenone | 1.15@ | 1.30 |
| Benzyl Acetate | .65@ | .75 |
| Benzyl Alcohol | .75@ | 1.00 |
| Benzyl Benzoate | 1.05@ | 1.20 |

| | | |
|-----------------------|----------|---------|
| Benzyl Butyrate | 2.00@ | 2.25 |
| Benzyl Cinnamate | 3.75@ | 4.25 |
| Benzyl Formate | 2.25@ | 2.50 |
| Benzyl-iso-eugenol | 9.00@ | 9.75 |
| Benzyl Propionate | 2.00@ | 2.15 |
| Bornyl Acetate | 2.25 | Nom'l |
| Bromstyrol | 5.75@ | 6.35 |
| Butyl Acetate | .19 1/2@ | .19 3/4 |
| Cinnamic Alcohol | 3.05@ | 3.50 |
| Cinnamic Aldehyde | 1.00@ | 1.10 |
| Cinnamyl Acetate | 4.75@ | 5.50 |
| Cinnamyl Butyrate | 12.00@ | 14.00 |
| Cinnamyl Formate | 10.00@ | 13.00 |
| Citral, C. P. | 4.00@ | 4.75 |
| Citronellol | 5.50@ | 8.50 |
| Citronellyl Acetate | 9.25@ | 12.00 |
| Coumarin | 2.75@ | 2.90 |
| Cuminic Aldehyde | 7.75@ | 10.00 |
| Diethylphthalate | .38@ | .40 |
| Dimethyl Anthranilate | 4.55@ | 5.00 |
| Ethyl Acetate | .35@ | .40 |
| Ethyl Anthranilate | 5.50@ | 7.00 |
| Ethyl Benzoate | .65@ | .90 |
| Ethyl Butyrate | .80@ | .90 |
| Ethyl Cinnamate | 2.55@ | 3.00 |
| Ethyl Formate | .65@ | .75 |
| Ethyl Propionate | .90@ | 1.00 |
| Ethyl Salicylate | .90@ | 1.00 |
| Ethyl Vanillin | 6.75@ | 6.80 |
| Eucalyptol | 2.50@ | 3.25 |
| Eugenol | 2.55@ | 3.00 |
| Geraniol, dom. | 6.00@ | 9.75 |
| Geranyl Acetate | 7.50@ | 8.75 |
| Geranyl Butyrate | 10.25@ | 10.75 |
| Geranyl Formate | 12.50@ | 14.00 |
| Heliotropin, dom. | 3.00@ | 3.75 |
| Hydrotropic Aldehyde | 6.95@ | 7.50 |
| Hydroxycitronellal | 10.40@ | 14.00 |
| Indol, C. P. | 20.00@ | 23.00 |
| Ionones | | |
| Beta | 6.50@ | 11.00 |
| Methyl | 5.50@ | 9.00 |

| | | |
|--|--------|-------|
| Iso-borneol | 1.30@ | 1.50 |
| Iso-butyl Acetate | 1.05@ | 1.75 |
| Iso-butyl Benzoate | 1.35@ | 2.50 |
| Iso-butyl Salicylate | 2.35@ | 3.00 |
| Iso-eugenol | 3.50@ | 3.80 |
| Iso-safrol | 1.50@ | 2.00 |
| Linalool | 5.45@ | 6.25 |
| Linalyl Acetate 90% | 7.00@ | 7.50 |
| 75% | 5.80@ | 6.20 |
| Linalyl Anthranilate | 15.00@ | |
| Linalyl Benzoate | 10.50@ | |
| Linalyl Formate | 13.00@ | 15.00 |
| Menthol | 8.00@ | 8.25 |
| Methyl Acetophenone | 1.40@ | 1.80 |
| Methyl Anthranilate | 2.25@ | 2.40 |
| Methyl Cellulose, f.o.b., shipping point | .60 | Nom'l |
| Methyl Cinnamate | 2.00@ | 2.50 |
| Methyl Eugenol | 4.00@ | 6.25 |
| Methyl Heptenone | 3.50 | Nom'l |
| Methyl Heptene Carbonate | 45.00@ | 60.00 |
| Methyl Iso-eugenol | 5.85@ | 10.00 |
| Methyl Octine Carbonate | 24.00@ | 30.00 |
| Methyl Naphthyl Ketone | 3.25@ | 3.40 |
| Methyl Phenylacetate | 2.50@ | 3.00 |
| Methyl Salicylate | .42@ | .45 |
| Musk Ambrette | 7.00@ | 7.75 |
| Ketone | 4.95@ | 5.50 |
| Xylene | 1.60@ | 2.00 |
| Neroline (ethyl ether) | 1.85@ | 2.25 |
| Paracresyl Acetate | 2.25@ | 2.80 |
| Paracresyl Methyl Ether | 2.60@ | 3.50 |
| Paracresyl Phenyl-acetate | 4.75@ | 5.25 |
| Phenylacetaldehyde 50% | 2.50@ | 2.65 |
| 100% | 4.20@ | 4.75 |
| Phenylacetic Acid | 1.75@ | 2.25 |
| Phenylethyl Acetate | 2.40@ | 3.10 |
| Phenylethyl Alcohol | 2.10@ | 2.30 |
| Phenylethyl Anthranilate | 16.00@ | |

(Continued on page 303)

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(Continued from page 301)

| | | |
|--------------------------|--------|-------|
| Phenylethyl Butyrate | 4.65@ | 5.00 |
| Phenylethyl Propionate | 3.90@ | 4.40 |
| Phenylethyl Valerianate | 7.50@ | 8.10 |
| Phenylpropyl Acetate | 5.50@ | 5.70 |
| Safrol | 1.20@ | 1.60 |
| Scatol C. P. (oz.) | 5.35@ | 6.00 |
| Styrollyl Acetate | 2.50@ | 3.00 |
| Vanillin (clove oil) | 4.50@ | 4.65 |
| (guaiacol) | 3.00@ | 3.05 |
| Lianin | 3.00@ | 3.05 |
| Vetivert Acetate | 70.00@ | 75.00 |
| Violet Ketone Alpha | 18.00 | Nom'l |
| Beta | 15.00 | Nom'l |
| Methyl | 6.50 | Nom'l |
| Yara Yara (methyl ester) | 1.85@ | 2.20 |

BEANS

| | | |
|---------------------|--------|-------|
| Tanka Beans Surinam | .90@ | 1.00 |
| Angostura | 1.75@ | 1.80 |
| Vanilla Beans | | |
| Mexican, whole | 10.50@ | 12.00 |
| Mexican, cut | 9.00@ | 9.50 |
| Bourbon | 7.75@ | 8.00 |
| Tahiti | 4.50@ | 5.00 |

SUNDRIES AND DRUGS

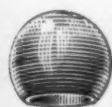
| | | |
|-----------------------------|----------|---------|
| Acetone | .08 1/2@ | .13 1/2 |
| Ambergris, ounce | 8.50@ | 18.00 |
| Balsam, Copaiba | .80@ | .95 |
| Peru | 1.00@ | 1.10 |
| Beeswax bleached, pure | | |
| U. S. P. | .65@ | .70 |
| Yellow, refined | .58@ | .63 |
| Bismuth, subnitrate | 2.15@ | 2.28 |
| Borax, crystals, carlot ton | 55.50@ | 58.00 |
| Boric Acid, U. S. P., ton | 129.00@ | 133.50 |
| Calcium, phosphate | .08@ | .08 3/4 |
| Phosphate, tri-basic | .0635@ | .0680 |

| | | |
|--------------------------------|----------|---------|
| Camphor pwd., domestic | .72@ | .74 |
| Castoreum, natural | 12.00@ | 13.00 |
| Cetyl, Alcohol | 2.25@ | 2.55 |
| Chalk, precip. bags, clts. | .02 3/4@ | .03 |
| Cherry Laurel Water, jug, gal. | 2.10@ | 2.50 |
| Citric Acid | .23@ | .26 |
| Civet, ounce | 8.00@ | 22.00 |
| Cocoa, Butter, bulk | .38@ | .40 |
| Cyclohexanol (Hexalin) | .21 1/2@ | .22 |
| Fuller's Earth, Mines ton | 27.00@ | 30.00 |
| Glycerin, C. P. | .29 1/4@ | .29 1/2 |
| Gum Arabic, white | .29@ | .32 |
| Amber | 14 1/2@ | 15 1/4 |
| Powdered, U.S.P. | 19 1/2@ | .21 |
| Gum Benzoin, Siam | 4.00@ | 4.50 |
| Sumatra | .60@ | .75 |
| Gum Galbanum | 1.00@ | 1.10 |
| Gum Myrrh | .48@ | .50 |
| Henna, pwd. | .35@ | .40 |
| Kaolin | .05@ | .07 |
| Labdanum | 5.00@ | 7.00 |
| Lanolin, hydrous | .25@ | .26 |
| Anhydrous | .28@ | .29 |
| Magnesium, carbonate | .11@ | .12 1/4 |
| Stearate | .44@ | .45 |
| Musk, ounce | 28.00@ | 55.00 |
| Olibanum, tears | .26@ | .35 |
| Siftings | .12 1/2@ | .14 |
| Orange Flower Water, gal. | 1.75@ | 2.25 |
| Orris Root, Italian | .24@ | .35 |
| Paraffin | .04@ | .06 |
| Peroxide (hydrogen) N.S.P. | | |
| bbls. | 1.10@ | 1.75 |
| Petrolatum, white | .07 1/4@ | .09 3/4 |
| Quince Seed | 1.65@ | 1.90 |
| Rice Starch | Nominal | |
| Rose Leaves, red | 3.45@ | 4.00 |
| Rose Water, jug (6.6 gal.) | 4.50@ | 6.00 |
| Rosin, M. per cwt. | 8.26@ | |
| Salicylic Acid | .40@ | .42 |

| | | |
|----------------------------------|----------|---------|
| Saponin | 1.75@ | 2.00 |
| Silicate, 40°, drums, works, | | |
| 100 pounds white | .95@ | 1.20 |
| Soap, neutral, white | .20@ | .25 |
| Sodium Carb. | | |
| 58% light, 100 pounds | 1.60@ | 2.70 |
| Hydroxide, 76% solid, 100 pounds | 2.90@ | 3.75 |
| Spermaceti | .43@ | .48 |
| Stearate Zinc N.S.P. | .43@ | .44 |
| Styrax | 1.10@ | 1.60 |
| Tartaric Acid | .50@ | .50 1/2 |
| Tragacanth, No. 1 | 3.60@ | 4.00 |
| Triethanolamine | .19 1/2@ | .20 1/2 |
| Violet Flowers | 2.00 | Nom'l |
| Zinc Oxide, U. S. P. bbls. | 12 3/4@ | .14 |

OILS AND FATS

| | | |
|-----------------------------|----------|---------|
| Castor No. 1, tanks | .27@ | |
| Cocanut, Ceylon type, | | |
| Atlantic ports, tanks | .12@ | |
| Corn, crude, Midwest, mill, | | |
| tanks | .21 1/2@ | |
| Corn Oil, distilled, tanks | .25 | Nom'l |
| Cotton, crude, tanks | .18@ | |
| Grease, white | .11 3/4@ | .12 |
| Lard, Chicago | .17@ | .17 1/4 |
| Lard Oil, common, No. 1 | | |
| Chicago, bbls. | .17@ | |
| Palm Niger, drums | Nominal | |
| Peanut, refined, drums | .26 | Nom'l |
| Red Oil, distilled drums | .17 3/4@ | .18 3/4 |
| Stearic Acid | | |
| Triple Pressed | .25 1/4@ | .26 1/4 |
| Double Pressed | .23@ | .24 |
| Tallow, acidless, drums, | | |
| Chicago | .19 1/2@ | |
| Tallow, N. Y. C., extra | .11 3/4@ | |
| Whale oil, refined | Nominal | |



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